

Statement presented on behalf of Chile in reply to the Argentine Report submitted to the Tribunal, constituted by H.B. Majesty's government acting as arbitrator in pursuance of the agreement dated April 17, 1896.

Chile.

London [Butler & Tanner] 1901-1902

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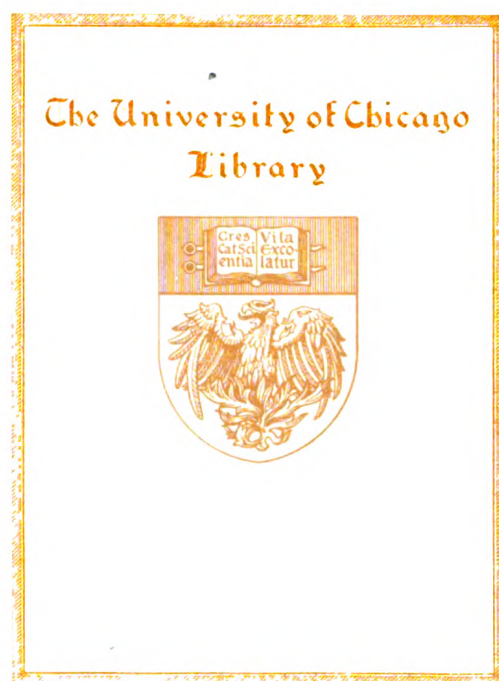


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APPENDIX TO CHILEAN STATEMENT

Chile
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A P P E N D I X
to the
S T A T E M E N T
presented on behalf of
C H I L E
in reply to the
A R G E N T I N E R E P O R T
submitted to the
TRIBUNAL constituted by H. B. MAJESTY'S GOVERNMENT
acting as
A R B I T R A T O R
in pursuance of the Agreement dated
April 17, 1896

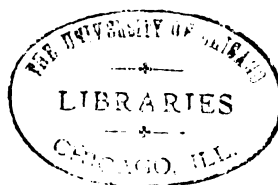
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A P P E N D I X

PART I

Documents communicated by the Chilean
Minister to the Foreign Office, on
the 6th December, 1898

B

BOUNDARY TREATY

between the Republic of Chile and the Argentine Republic.

Signed July 23, 1881.

[The translations of the Treaty, Protocols, and Records given herein, are substantially the same as those printed in the British State Papers [188], under the title, "Papers communicated by the Chilean Minister, December 6, 1898," and submitted to the Tribunal of Arbitration in its first meeting on March 27, 1899].

THE Governments of the Republic of Chile and of the Argentine Republic, desirous of terminating in a friendly and dignified manner the boundary controversy existing between the two countries, and giving effect to Article XXXIX. of the Treaty of April, 1856, have decided to conclude a Boundary Treaty, and have for this purpose named their Plenipotentiaries as follows :—

His Excellency the President of the Republic of Chile, Don Francisco de B. Echeverria, Consul-General of that Republic ;

His Excellency the President of the Argentine Republic, Dr. Don Bernardo de Irigóyen, Secretary of State for Foreign Affairs.

These Representatives, after exchanging their full powers,

Treaty of 1881.

(4)

and finding the same sufficient for the purpose of this act, have agreed upon the following Articles :—

ARTICLE I.

The boundary between Chile and the Argentine Republic is from north to south, as far as the 52nd parallel of latitude, the Cordillera de los Andes. The boundary-line shall run in that extent over the highest summits of the said Cordilleras which divide the waters, and shall pass between the sources [of streams] flowing down to either side. The difficulties that might arise owing to the existence of certain valleys formed by the bifurcation of the Cordillera, and where the water divide should not be clear, shall be amicably solved by two Experts, appointed one by each party. Should these fail to agree, a third Expert, selected by both Governments, will be called in to decide them. A Minute of their proceedings shall be drawn up in duplicate, signed by the two Experts on those points upon which they should be in accord, and also by the third Expert on the points decided by the latter. This Minute shall have full force from the moment it is signed by the Experts, and it shall be considered stable and valid without the necessity of further formalities or proceedings. A copy of such Minute shall be forwarded to each of the Governments.

ARTICLE II.

In the southern part of the Continent, and to the north of the Straits of Magellan, the boundary between the two countries shall be a line which, starting from Point Dungeness, shall be prolonged by land as far as Monte Dinero ; from this point it shall continue to the west, following the greatest altitudes of the range of hillocks existing there, until it touches the hill-top of Mount Aymond. From this point the line shall be prolonged up to the intersection of the 70th meridian with

Treaty of 1881.

(5)

the 52nd parallel of latitude, and thence it shall continue to the west coinciding with this latter parallel, as far as the *divortia aquarum* of the Andes. The territories to the north of such a line shall belong to the Argentine Republic, and to Chile those extending to the south of it, without prejudice to what is provided in Article III., respecting Tierra del Fuego and adjacent islands.

ARTICLE III.

In Tierra del Fuego a line shall be drawn, which starting from the point called Cape Espíritu Santo, in parallel 52° 40', shall be prolonged to the south along the meridian 68° 34' west of Greenwich until it touches Beagle Channel. Tierra del Fuego, divided in this manner, shall be Chilean on the western side and Argentine on the eastern. As for the islands, to the Argentine Republic shall belong Staten Island, the small islands next to it, and the other islands on the Atlantic to the east of Tierra del Fuego and of the eastern coast of Patagonia ; and to Chile shall belong all the islands to the south of Beagle Channel up to Cape Horn, and those to the west of Tierra del Fuego.

ARTICLE IV.

The Experts referred to in Article I. shall mark out on the ground the lines indicated in the two preceding Articles, and shall proceed in the manner therein indicated.

ARTICLE V.

The Straits of Magellan shall be neutralized for ever, and free navigation assured to the flags of all nations. In order to assure this freedom and neutrality, no fortifications or military defences shall be constructed on the coasts that might be contrary to this purpose.

Treaty of 1881.

(6)

ARTICLE VI.

The Governments of Chile and the Argentine Republic shall perpetually exercise full dominion over the territories which respectively belong to them according to the present arrangement.

Any question which may unhappily arise between the two countries, be it on account of the present Arrangement, or be it from any other cause whatsoever, shall be submitted to the decision of a friendly Power ; but, in any case, the boundary specified in the present Agreement will remain as the immovable one between the two countries.

ARTICLE VII.

The ratifications of the present Treaty shall be exchanged within the period of sixty days, or sooner if possible, and such exchange shall take place in the city of Buenos Ayres or in that of Santiago de Chile.

In testimony of which the Plenipotentiaries of the Republic of Chile and of the Argentine Republic have signed and sealed with their respective seals, and in duplicate, the present Treaty, in the city of Buenos Ayres, on the 23rd day of the month of July, in the year of our Lord 1881.

(L.S.) FRANCISCO DE B. ECHEVERRIA.

(L.S.) BERNARDO DE IRIGÓYEN.

DELIMITATION CONVENTION

between the Republic of Chile and the Argentine Republic.

Signed August 20, 1888.

THE Governments of the Republic of Chile and of the Argentine Republic, mutually desirous of executing the provisions of the Treaty concluded by both of them on the 23rd July, 1881, with reference to the demarcation of the territorial limits between the two countries, have appointed their respective Plenipotentiaries as follows :

His Excellency the President of the Republic of Chile, Señor Don Demetrio Lastarria, Minister of Foreign Affairs ;

His Excellency the President of the Argentine Republic, Señor Don José E. Uriburu, Envoy Extraordinary and Minister Plenipotentiary to Chile.

Who, being duly authorized to that effect, have agreed upon the stipulations contained in the following Clauses :—

I.

The appointment of the two Experts to which Articles I. and IV. of the Boundary Treaty of 1881 refer, shall be made by the Signatory Governments within the term of two months from the date of ratification of this Convention.

Convention of 1888.

(8)

II.

To assist the Experts in the discharge of their functions, each of the Governments shall name, within the same term, five assistants. The number of these Assistants may be increased in identical proportions by each party whenever the Experts should jointly ask for it.

III.

The Experts shall carry out on the ground the demarcation of the lines indicated in Articles I., II. and III. of the Boundary Treaty.

IV.

The Experts may, however, entrust the execution of the works to Commissions of Assistants, same Assistants to be named in equal numbers by each party. The Commissions shall proceed according to the instructions given by the Experts by joint accord and in writing.

V.

The Experts shall meet in the town of Concepcion, Chile, forty days after their appointment, to agree upon the starting point or points of their work, and anything else which may be necessary.

They shall draw up in duplicate a Minute of all that is agreed upon in that meeting and in the course of their operations.

VI.

Every time the Experts should not come to an agreement upon any point in the fixing of the boundaries or upon any other question whatever, they shall communicate immediately with their Governments, so that the latter may proceed to appoint

Convention of 1888.

(9)

the third party who is to settle the difference according to the Boundary Treaty of 1881.

VII.

The Experts may have, at the discretion of their respective Governments, the necessary staff for their private service, sanitary or otherwise, and when they deem it necessary for their safety they may call for a military guard from each of the Governments, or only from the nation in whose territory they happen to be ; in the first place the guard shall consist of an equal number of men from each party.

VIII.

The Experts shall fix the dates for the work upon the ground, and shall set up their office in the city they may select with the right to move it by agreement from one place to another, whenever the convenience of the service should demand it. Each Government shall provide the Expert it appoints and his Assistants with everything required for the work, and they shall jointly pay the expenses of the office and of the demarcation of the boundary.

IX.

Every time that any of the posts of Expert and Assistants become vacant, it must be filled up by the respective Government within two months.

X.

The present Convention shall be ratified, and the exchange of ratifications shall take place in the City of Santiago or in that of Buenos Ayres within the least possible delay.

In testimony of which the Plenipotentiaries of both Govern-

Convention of 1888.

(10)

ments have signed the present Convention, in duplicate, in Santiago de Chile, on the 20th day of the month of August, 1888.

(L.S.) DEMETRIO LASTARRIA.

(L.S.) JOSÉ E. URIBURU.

PROTOCOL.

Signed May 1, 1893.

IN the City of Santiago de Chile, on the 1st May, 1893, at a meeting at which there were present in the Office of the Ministry of Foreign Affairs, the Minister of War and Marine, Don Isidoro Errázuriz, in his capacity of Plenipotentiary *ad hoc*, and Don Norberto Quirno Costa, Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic, after considering the actual state of the work of the Experts who are to carry out the boundary demarcation between Chile and the Argentine Republic, in conformity with the Boundary Treaty of 1881, and being both desirous of removing the difficulties with which the Experts have met or may meet in the fulfilment of their commission, and to establish between both countries a complete and sincere accord corresponding to their antecedents of confraternity and common glory, and to the intense aspirations of the opinion on both sides of the Andes ; have agreed upon the following :--

I.

It being provided by Article I. of the Treaty of the 23rd July, 1881, that " the boundary between Chile and the Argentine Republic is from north to south as far as the 52nd parallel of latitude, the Cordillera de los Andes," and that " the boundary

Protocol of 1893.

(12)

line shall run over the highest summits of the said Cordillera which divide the waters, and that it shall pass between the sources flowing down to either side," the Experts and the Sub-Commissions shall hold this principle as the invariable rule in their proceedings.

Consequently, there shall be held as perpetually belonging to the Argentine Republic and as under its absolute dominion all the lands and all the waters, to wit : lakes, lagoons, rivers, and parts of rivers, brooks, springs lying to the east of the line of the highest summits of the Cordillera de los Andes which divide the waters ; and, as the property and under the absolute dominion of Chile, all the lands and all the waters, to wit : lakes, lagoons, rivers, and parts of rivers, brooks, springs lying to the west of the highest summits of the Cordillera de los Andes which divide the waters.

II.

The Undersigned declare that, in the judgment of their respective Governments, and according to the spirit of the Boundary Treaty, the Argentine Republic retains its dominion and sovereignty over all the territory extending to the east of the main range of the Andes as far as the Atlantic Coast, and the Republic of Chile the territory to the west as far as the Pacific Coast ; it being understood that, by the provisions of that Treaty, the sovereignty of each State over the respective littoral is absolute so that *Chile cannot claim any point towards the Atlantic nor can the Argentine Republic claim any point towards the Pacific*. If, in the peninsular district in the south nearing the 52nd parallel, the Cordillera should be found to penetrate between the inlets of the Pacific which exist there, the Experts shall dispose that a survey of the ground be made in order to fix a boundary line which shall leave to Chile the coasts of these inlets ; in view of which survey both Governments shall determine the line amicably.

Protocol of 1893.

(13)

III.

In the case foreseen in the second part of Article I. of the Treaty of 1881, of difficulties that might arise "owing to the existence of certain valleys formed by the bifurcation of the Cordillera, and where the water-divide should not be clear," the Experts shall endeavour to settle them amicably, causing this geographical condition of the demarcation to be searched for on the ground. To this end they shall dispose by mutual agreement that a survey be made by the Assistant Engineers which may serve them to solve the difficulty.

IV.

The demarcation of Tierra del Fuego shall begin simultaneously with that of the Cordillera, and shall start from the point called Cape Espíritu Santo. There being in sight from the sea at that point three hillocks of moderate height, the middle one, which is the highest, shall be taken as the starting point, and on its summit shall be placed the first landmark of the boundary line which shall continue southward along the meridian.

V.

The demarcation upon the ground shall begin next spring, simultaneously in the Cordillera de los Andes, and in Tierra del Fuego, in the direction previously arranged by the experts, that is to say, starting from the northern region of the former, and from Cape Espíritu Santo in the latter. To that effect, the Commissions of Assistant Engineers shall be ready to start work on the 15th of October. On that date the Experts shall have arranged and signed the instructions which, according to the fourth clause of the Convention of the 20th August, 1888, must be given to said Commissions. These instructions

Protocol of 1893.

(14)

shall be drawn up in conformity with the stipulations of this Protocol.

VI.

For the effects of the demarcation, the Experts, or, in their place, the Commissions of Assistant Engineers, acting on the Instructions given to them by the former, shall seek the boundary-line on the ground and carry out the demarcation by means of iron landmarks of the kind already agreed upon, placing one on each pass or accessible part of the mountain which is situated on the boundary-line, and drawing up a Minute of the operation, in which shall be stated the grounds for it and the topographical data necessary to recognize the point fixed at any time, even in case the boundary mark should disappear by the action of time or weather.

VII.

The experts shall instruct the Commissions of Assistant Engineers to collect all the necessary data, to draw on paper by joint accord, and with all possible accuracy, the dividing line which they should be marking out on the ground. To this effect they shall indicate the changes of altitude and azimuth experienced by the dividing line in its course ; the origin of the brooks or the ravines running down to either side of it, taking note, whenever possible, of their names ; and they shall fix distinctly the points on which the boundary marks are to be placed. These maps may contain other geographical features that, although not precisely necessary for the demarcation of the boundary—such as the visible course of the rivers descending to the neighbouring valleys and the high peaks which rise on one or the other side of the boundary-line—may be easily located on the ground as references for its ubication. The Experts shall indicate in the instructions they give to their Assistant Engineers, the geographical data which it may be

Protocol of 1893.

(15)

useful to collect, provided it does not interrupt or delay the demarcation of the boundary, which is the principal object of the Experts' Commission, to the prompt and amicable carrying out of which the two Governments are pledged.

VIII.

The Argentine Expert, having stated that, in order to sign, with full knowledge of the circumstances, the Minute of 15th of April, 1892, by which a Chilean-Argentine Sub-Commission marked on the ground the starting-point of the demarcation of the frontier in the Cordillera de los Andes, he thought it indispensable to make a fresh survey of the place to confirm or correct that operation, adding that that survey would not delay the continuation of the work which could be carried on simultaneously by another Sub-Commission ; and the Chilean Expert having, on his part, declared that, although he believed the operation had been carried out strictly according to the Treaties, he had no objection to assent to the wishes of his colleague, as a proof of the cordiality with which the work was being carried out ; the Undersigned have agreed that a revision of the operation shall take place, and that in case any error is discovered, the boundary-mark shall be removed to the spot where it ought to be placed, according to the terms of the Boundary Treaty.

IX.

Wishing to accelerate the work of demarcation, and believing that this can be secured by employing three Sub-Commissions, instead of two, which have been working up till now, without its being necessary to increase the number of Assistant Engineers, the Undersigned agree that for the future, and until it is determined to create others, there shall be three Sub-Commissions composed of four members each, two for Chile and

Protocol of 1893.

(16)

two for the Argentine Republic, and of the assistants which, by joint accord, may be considered necessary.

X.

The preceding stipulations do not impair in the very least the spirit of the Boundary Treaty of 1881, and it is therefore declared that there subsist in their full strength the conciliatory means for settling any difficulty which Articles I. and VI. of that Treaty prescribe.

XI.

The undersigned Ministers understand, and hereby declare that on account of the nature of the preceding stipulations, and in order to invest the solutions arrived at with a permanent character, this Protocol must be previously laid before the Congresses of both countries, which will be done in the next ordinary sessions, keeping it in private in the meantime.

The undersigned Ministers, in the name of their respective Governments, and duly authorized, sign and seal the present Protocol in two copies—one for each party.

(L.S.) ISIDORO ERRÁZURIZ.

(L.S.) N. QUIRNO COSTA.

PROTOCOL.

Signed September 6, 1895.

IN Santiago de Chile, on the 6th September, 1895, there met in the Foreign Office: Don Claudio Matte, Minister of Foreign Affairs of Chile, and Don Norberto Quirno Costa, Minister Plenipotentiary of the Argentine Republic, with proper credentials and authority, and declared that their respective Governments were animated by the desire that the demarcation of the frontier between the two countries should go on without interruption, in terms of the International Agreements of 1881, 1888, and 1893. The following Agreement was arrived at:—

1. The boundary experts shall arrange that the Joint Sub-Commissions of demarking assistants resume the work of delimitation, leaving for their destination from Santiago and Buenos Ayres respectively between the 15th of October and the 1st of November.

2. These Sub-Commissions will take up the work where they left off at the end of last season.

3. If in the course of their work the Joint Sub-Commissions should not find it possible to agree upon the position of one or more boundary landmarks, they shall in each case draw up the respective plan and, together with a study of the ground, they shall send it to the Experts, who shall, in the use of their

Protocol of 1895.

(18)

powers, endeavour to settle the divergency. Even if such a disagreement should occur, the Sub-Commissions shall continue to mark out the frontier from the point next to that where the difficulty arose, and in the same direction as before ; as the intention of the two Governments is that the work shall not be interrupted until the whole boundary line is completed.

4. If the Experts should not be able to settle the disagreements which may arise in marking out the frontier-line, they shall send up all the antecedents to their respective Governments, so that the questions may be decided in accordance with the Treaties between the countries.

The present Agreement has been signed and sealed in two copies.

(L.S.) CLAUDIO MATTE.

(L.S.) N. QUIRNO COSTA.

ARBITRATION AGREEMENT.

Signed April 17, 1896.

IN the City of Santiago de Chile, on the 17th day of the month of April, of the year 1896, Señor Don Adolfo Guerrero, Foreign Minister, and Señor Don Norberto Quirno Costa, Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic in Chile, met at the office of the Ministry of Foreign Affairs and said that :

Whereas the Governments of the Republics of Chile and Argentina are desirous to facilitate the loyal execution of the existing Treaties, which fix the immovable boundary of both countries, re-establish confidence in peace and avoid conflicts of any kind, with the purpose always in view of procuring solutions by direct agreements without prejudice to the use of the other conciliatory means stipulated in said Treaties, they have arrived at the Agreement that contains the following bases :

1. The demarcation of the boundary-line between the Republic of Chile and the Argentine Republic, which is being carried on under the Treaty of 1881 and the Protocol of 1893 shall be extended along the Cordillera de los Andes up to the 23rd parallel of south latitude, the boundary-line from the said parallel down to the parallel of 26° 52' 45" to be marked out concurring both Governments in the operation and the Government of Bolivia that shall be invited to that end.

Agreement of 1896.

(20)

2. If differences should occur between the Experts in fixing the boundary landmarks in the Cordillera de los Andes to the south of parallel $26^{\circ} 52' 45''$, and should it not be possible to remove such differences by friendly arrangement between the Governments, they shall be submitted to the decision of Her Britannic Majesty's Government, which is hereby appointed by the Contracting Parties, in the capacity of Arbitrator entrusted with the strict application in such cases of the provisions of said Treaty and Protocol, after a survey of the ground has been made by a Commission appointed by the Arbitrator.

3. The Experts shall proceed to survey the ground in the neighbourhood of the 52nd parallel referred to in the last part of clause 2 of the Protocol of 1893, and shall propose the boundary-line to be adopted there if the case foreseen in that Clause should be found to have arisen ; if there should be a disagreement in the fixing of this line, it shall also be settled by the Arbitrator appointed in this Convention.

4. Sixty days after the disagreement has occurred in the cases above referred to, the intervention of the Arbitrator may be requested, either by the Governments conjointly or by either of them independently.

5. It is agreed by both Governments that the present ubication of the San Francisco landmark between the 26th and 27th parallels shall not be taken into consideration as a basis or forcible antecedent for the determination of the boundary-line on that region, and that the operations and works therein effected at several times shall only be valued as studies for the definite fixation of the boundary-line without prejudice to other studies that the experts might deem convenient to direct.

6. The Experts, on reassuming their duties in the incoming season shall make arrangements for the carrying out of the operations and surveys referred to in the 1st and 3rd clauses of this Agreement.

Agreement of 1896.

(21)

7. The Governments also agree to ratify the 3rd clause of the Agreement of the 6th of September, 1895, providing for the continuance of the boundary demarcation, even in case of differences arising, so that the said demarcation shall never be interrupted, as is the intention of the Contracting Parties.

8. Within a term of sixty days after the present Agreement has been signed, the Diplomatic Representatives of Chile and the Argentine Republic accredited near the Government of Her Britannic Majesty shall jointly pray the same to accept the post of Arbitrator hereby conferred, to which effect the respective Governments shall impart the necessary instructions.

9. The Governments of Chile and the Argentine Republic shall defray in half shares the expenses attendant on the Agreement.

The undersigned Ministers, in the name of their respective Governments, and duly authorized, sign and seal the present Agreement in two copies, one for each party.

(L.S.) ADOLFO GUERRERO.

(L.S.) N. QUIRNO COSTA.

**Record of the Meeting of the Experts
on August 29, 1898.**

**Containing the Chilean Proposal
with regard to the general Frontier Line.**

IN the City of Santiago de Chile, on the 29th of August, 1898, there met at the Office of the International Boundary Commission the undersigned experts :

Don Diego Barros Arana, on the part of the Republic of Chile, and Don Francisco P. Moreno, on the part of the Argentine Republic. The object of the meeting was to come to a decision with regard to the general line of the frontier in accordance with the understanding which had been arrived at in the Conference of the 1st of May, 1897, and at that held in the Office of His Excellency the President of the Republic of Chile, on the 14th of May, 1898. Each Commissioner expressed his views as set forth below :

The Commissioner of Chile stated that he had laid down a line for the general Andean frontier between Chile and the Argentine Republic as stipulated in the Treaty of 1881, which he submits to his colleague, in the plan and the enumerative list of points which is inserted below ; that in tracing the said line he had been guided, solely and exclusively, by the principle of demarcation established in the clause I. of the Treaty of 1881, a principle which must also be the invariable rule for the proceedings of the Commissioners, according to the Protocol of 1893.

Chilean proposal.

(23)

That, consequently, the frontier line which he proposes passes along all the highest summits of the Andes which divide the waters, and runs separating continuously the sources of the rivers belonging to one and to the other country.

That, the said line leaves within the territory of each of the two nations the peaks, chains, or ranges, however high they may be, which do not divide the waters of the fluvial systems belonging to each country.

That, although the most extensive and important part of the territory through which the boundary line runs are sufficiently well known, and in part thoroughly surveyed, and also the hydrographic basins of the rivers and streams which flow towards both sides, well established in general, he points out that the topographical location of the proposed line is entirely independent of the correctness of the maps and plans, and for that reason, he declares, that the said line is no other than the natural and actual water-dividing line of the South American continent, between the parallels of latitude $26^{\circ} 52' 45''$, and 52° , which line can be marked upon the ground without carrying out other topographical operations than those required to determine which would be the real course of the waters where these do not actually flow.

That, judging all further discussion now as useless, as he considers that all the arguments from both sides have been exhausted, he now proposes to his colleague the following method of procedure in order to terminate in two, or at the most three meetings, the resolution of the Commissioners with regard to the general line :

1. That the Argentine Commissioner shall submit his plan of the general line with an enumerative list of points or sections accompanied by a description sufficiently clear and definite to make the recognition possible on the spot by some natural feature.

2. That the general plans and lists of points shall remain at

Chilean proposal.

(24)

the disposal of the Commissioner to whom they have been presented during the interval fixed by common accord until the second meeting.

3. That at this meeting the Commissioners submit respectively the following data, in writing :

(*a*) The Schedule of the points or sections upon which both may find themselves to be in accord.

(*b*) The Schedule of the points in which they may find themselves in divergence.

4. Having made the comparison of the respective Schedules, either or both Commissioners may make any explanations, observations, or modifications to their original proposal, in view of the geographical features shown in the plans presented by his colleague, which shall be recorded in the Minutes of Proceedings.

5. From these data two Schedules of points shall be drawn up :

(*a*) That of the points and sections, where by mutual agreement the dividing line between the two countries may be fixed.

(*b*) That of the points and sections, where no agreement between the Commissioners being arrived at, this circumstance shall be brought to the knowledge of the respective Governments for the ulterior purposes provided by the Treaties.

These Schedules shall be read over, if necessary, at a third meeting, which shall be held at an interval of one or two days after the second. They shall be inserted in a Minute, duplicate copies of which shall be made and signed by both Commissioners for the purpose of submitting them to their respective Governments, accompanied with any observations which may be thought proper, and with this act the presentation of the general line, so far as regards the Commissioners, shall be considered as terminated.

The description of the boundary line, as proposed by the

General Frontier line.

(25)

Commissioner for Chile, was as follows, and is placed on these Minutes at his request :

“ The points named San Francisco Pass, San Francisco Hill, Incahuasi Gap, Incahuasi Hill, Las Lozas Gap, Fraile Hill, Muerto Hill, Nevado Ojos del Salado, marked on the plan of the general frontier line Nos. 1 to 8, separate the Chilean slopes belonging to the hydrographic basin of the River Salado de Chañaral from the Argentine slopes belonging to that of the River Colorado or Bermejo de la Rioja.

“ The points named Solo Hill, Tres Cruces Hill, Punteagudo Hill, Los Patos Gap, Los Patos Hill, Tres Quebradas Pass, Valle Ancho, and Dos Hermanas Hill Gaps, marked Nos. 9 to 16, separate the hydrographic basin of the Chilean River Salado de Chañaral from that of the Argentine River Jahuel.

“ The points named Arroyo Pampa Gap, Lagunillas Gap, Vidal Gormaz Hill, marked Nos. 17 to 19, separate the Chilean basin of the River Salado from the Argentine River Blanco-Jachal.

“ The points named Vidal Gormaz Gap, Quebrada Seca Gap, Las Vegas de Quebrada Seca Hill, Quebrada Seca Gap (south), Picas Negras Gap, Peñasco de Diego Pass, Come Caballos Pass, Come Caballos Hill, Desecho de Peña Negra Pass, Peña Negra Pass, Caserones de la Línea Hill, La Ollita Hill, La Ollita Pass or Ramadilla, Colorado Hill, and Potro Hill, marked Nos. 20 to 34, separate the Chilean basin of the Copiapó River from that of the Argentine River Blanco-Jachal.

“ The points named Macho Muerto Pass, Inca Pass, Rincon de la Flecha Pass (3); Rincon de la Flecha Pass (2); Rincon de la Flecha Pass (1); nameless accessible point, La Flecha or Los Helados Pass, Los Tambos Gap, Nevado Los Tambillos, Toro Hill, Valeriano Pass, Soberado Pass, Chollay Pass, Los Amarillos Pass, Oríjen del Rio Potrerillos Pass, Potrerillos Pass, Chivato Pass, Guanaco Sonso Pass, Oríjen de la Quebrada del Guanaco Sonso Gap, nameless acces-

Chilean proposal.

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sible point, Sancarron Pass, Los Bañitos Pass, marked Nos. 35 to 56, separate the Chilean basin of the River Huasco from that of the Argentine River Jachal.

"The points named Deidad Pass, Vacas Heladas Pass, Vacas Heladas Hill, Las Tórtolas Pass, Tórtolas Hill, La Lagunita Pass, Los Bañados Hill, Agua Negra Pass, and Olivares hills, numbered 57 to 65, separate the Chilean basin of the River Coquimbo from that of the Argentine River Jachal.

"The points named La Gloria Pass, Empalme Cordillera Rio Blanco Gap, San Andres Hill, accessible hill to the south of San Andrés, San Andrés Pass, inaccessible hill of Munizaga, Munizaga Pass (east), nameless accessible hill, Munizaga Pass, west, and Vallecillo Gap, marked Nos. 66 to 75, separate the Chilean basin of the River Coquimbo from that of the Argentine River Castaño (San Juan).

"The points named Barahona Pass, nameless accessible summit, Doña Rosa Pass, La Coipita Gap, Viento Gap, Ventillo Pass, nameless accessible summit, Ventillo Gap, nameless summit of difficult access, Guana Pass, Portillo Pass, Valle Hermoso Pass, nameless accessible hill, and Los Azules Pass, numbered 76 to 89, separate the Chilean basin of the River Limarí from that of the Argentine River Castaño (San Juan).

"The points named Los Azules Pass, La Laguna Pass, and Azufre or Calderon Pass, numbered Nos. 89 to 91, separate the Chilean basin of the River Limarí from that of the Argentine River Santa Cruz (San Juan).

"The point named Illapel Pass and track of Cordillera, etc., marked Nos. 92 and 93, separate the Chilean basin of the River Illapel from that of the Argentine River Calingasta (San Juan).

"The points named Puenteccillos Pass, Pelambres Pass, Pachon Gap, Cerro Blanco Pass, Mondaquita Pass, Bonito Pass, Alitre Gap, Alitre Pass, Rinconada del Yunque Gap, Yunque Gap, Ojotas Pass, Mercedario Pass, Gredas Pass, Laguna del

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Pelado Pass, Teatinos Pass, Lagunas Gap, Quebrada Grande Gap, Quebrada Fria Pass, Quebrada Fria Gap, Llaetas Pass, Golpe de Agua Pass, Ortiz Pass, and La Honda Pass, numbered 94 to 116, separate the Chilean basin of the River Choapa from that of the Argentine River Calingasta (San Juan).

" The points named Longomiche Gap, Valle Hermoso Pass, Quebrada Honda Gap, Rubio Pass, and Leiva Pass, numbered 117 to 121, separate the Chilean basin of the River Aconcagua from that of the Argentine River Calingasta (San Juan).

" The points named Contrabandistas Pass, Lomas Coloradas Gap, Iglesia Pass, Bermejo Pass, Navarro Gap, and inaccessible range, numbered 122 to 127, separate the Chilean basin of the River Aconcagua from that of the Argentine River Mendoza.

" The points named Nevado del Plomo, Pircas Pass, Morro Rabicano, Juncal Hill [?], Tupungato Gap, and Tupungato Hill, marked Nos. 128 to 133, separate the Chilean basin of the River Colorado (Maipo) from that of the Argentine River Mendoza.

" The points named Piuquenes Hills, Portillo de los Piuquenes, San José Volcano, Nieves Negras Pass, Colina Gap, Amarillo Hill, and Alvarado Hill, numbered 134 to 140, separate the Chilean basin of the River Maipo from that of the Argentine River Tunuyan.

" The points named Alvarado Pass (north), Alvarado Pass (south), Maipo Volcano, Maipo Pass, Rio Bayo Gap, Rio Bayo Pass, Rio Bayo Gap (west), Rio Bayo Peaks, Cruz de Piedra Gap, and Cruz de Piedra Pass, numbered 141 to 150, separate the Chilean basin of the River Maipo from that of the Argentine River Diamante.

" The points named Molina Pass and Morro del Atravieso, numbered 151 and 152, separate the Chilean basin of the River Cachapoal from that of the Argentine River Diamante.

" The points named Las Leñas Pass and Las Lágrimas Gap, numbered 153 and 154, separate the Chilean basin of the

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River Cachapoal (Rapel) from that of the Argentine River Atuel.

“ The points named Damas Pass and Torre de Santa Elena Hill, numbered 155 and 156, separate the Chilean basin of the River Tinguiririca (Rapel) from that of the Argentine River Rio Grande.

“ The points named Santa Elena Pass, Tiburcio Pass, Vergara Pass, Las Lagunas de Teno Pass, Planchón Pass, Planchón Hill, Baños del Azufre Hill, Deshecho Pass, accessible section of the Cordillera, Valle Grande Pass, accessible section, Potrerillos Pass, accessible section, Fierra Pass, accessible section, Devia Pass, Peñas Pass, accessible Cordillera, Montañés Pass, accessible, Montañesito Pass, Mora Hill, Mora Pass, and Yeso Pass, numbered 157 to 174, separate the hydrographic basins of the Chilean Rivers Teno, Maule, Colorado, and Lontué from the basin of the Argentine River Grande.

“ The points named Angeles Pass, accessible, San Francisco Pass, accessible, Cajón Chico Pass, Pichi-Trolon Pass, Overas Pass (north), Overas Pass (south), Campanario Pass, Campanario Hill, Risco Bayo Pass, Pehuenche Pass and accessible point, numbered 175 to 184, separate the Chilean basin of the River Maule from that of the Argentine River Grande.

“ The points named Guanaco Pass, accessible nameless summit, Laguna Negra Pass, Barrancas Pass, Sepúlveda Gap, nameless summit, Laguna Fea Gap and nameless summit, numbered 185 to 192, separate the Chilean basin of the River Maule from that of the Argentine River Barrancas-Grande.

“ The points named Portillo Pass, Benitez Pass, Puerta Vieja Pass, Valdez Pass, Macho Pass, nameless, Saco Pass, Dial Pass, Matancilla Hill, Catrinao Pass, and Piuquenes Pass, marked with 193 to 203, separate the Chilean basin of the River Maule from that of the River Neuquen.

“ The points named Cerro Colorado Pass, Los Moscos Pass, Zaña-Zaña Pass, Diucas Pass, accessible, Mariposas Pass, acces-

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sible, Cajón Negro Pass, Salitre Pass, Pincheira Pass, Lagunas de Epulafquen Pass, Pajaritos Pass, and Buraleo Pass, marked with the numbers 204 to 214, separate the Chilean basin of the River Ñuble from the Argentine basin of the River Neuquen.

“ The points named Atacalco Pass, Tábanos (Barbet), accessible point, Pichachen Pass, Picunlebu Pass, and Copulhue Pass, marked with the numbers 215 to 219, separate the hydrographic basin of the Chilean River Laja from that of the Argentine River Neuquen.

“ The points named Trapa-Trapa Pass, Copahue Pass, Copahue or Trollope Volcano, Puconmahuida Pass, Coliqueo Pass, Collochue Pass, Pulul Pass, Rahue Pass, Codihue Pass, and Pino Hachado Pass, marked with the numbers 220 to 229, separate the hydrographic basin of the Chilean River Bio-Bio from that of the Argentine River Neuquen.

“ The points named Arco Pass and Dicalma Pass, numbered 230 and 231, separate the Chilean basin of the River Bio-Bio from that of the Argentine of the River Aluminé-Limai.

“ The points named Santa María Hill, Llaimas Pass, Ñellocahué Pass, Reigolil Pass, summit without name, Coloco Pass, Malalco Pass, summit without name, Rilul Pass (1), Rilul Pass (2), Rasgado Hill, Huirinlil Pass, Añihueraqui Hill, Añihueraqui Pass (1), Añihueraqui Pass (2), Tres Picos Hill, Truomen Pass, Millalifen Range, Quilleihue Pass, Mamuil-Malal Pass, Lanin Volcano, and Paimun Pass, marked with the numbers 232 to 253, separate the hydrographic basins of the River Tolten from the Argentine basin of the River Limai.

“ The points named Quetru Pass, Paimun Hill, Carirriñe Pass, Huahúm Chain, Alliquina Pass, Maipu Pass, Chapelco Pass, Chapelco Range, Pilpil Pass, and Queñi Hills, marked with numbers 254 to 263, separate the hydrographic basin of the River Valdivia from that of the Argentine River Limai.

“ The points named, nameless range, Mirador Hill, Puyehue Pass, and Pantojo Hill, marked with numbers 264 to 267,

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separate the hydrographic basin of the River Bueno from that of the Argentine River Limai.

" The points named Esperanza Hill, Raulés Pass, Perez Rosales Pass, Perez Rosales Hill (1), and Perez Rosales Hill (2), marked numbers 268 to 272, separate the hydrographic basin of the Chilean River Petrohué from that of the Argentine River Limai.

" The points named Barros Arana Gap, Constitución Hill, Catedral Hill (1), Catedral Peak (Tower), El Morrito Hill, Mascardi Pass, summit of Negro Hill, Tristeza Hill, Rayo Hill, Ruinas de Bariloche Hill (North), Manso Pass, and hill without name, marked Nos. 273 to 284, separate the basin of the River Puelo from that of the Argentine River Limai.

" The point denominated Pico Quemado Hill, which is marked No. 285 ; a section of a range of hills, marked 286 ; the Maiten Pass, No. 287 ; a section of a range of hills, 288 ; and the Epuyen opening, No. 289, separate the hydrographic basin of the Chilean River Puelo from that of the Argentine River Chubut.

" The Cordilleras of Lelej and Esquel ; the Esquel opening, the gap of Nahuelpan ; the Thomas Hill, the Súnica opening, the Teca Hill, the Laguna Cronómetro opening, the range of Caquel and the Cuche Hill, marked on the plan with Nos. 290 to 298, separate the hydrographic basin of the Chilean River Futaleufú from that of the Argentine River Chubut.

" The two points called nameless opening, marked with Nos. 299 and 300, separate the hydrographic basin of the Chilean River Palena from that of the Argentine River Chubut.

" The points called nameless gap, marked No. 301 ; nameless accessible hill, 302 ; nameless accessible hill, 303 ; nameless accessible hill, 304 ; nameless point, 305 ; and nameless accessible hill, 306, separate the hydrographic basin of the Chilean River Palena from that of the Argentine River Senquerr.

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"The points called nameless hillock, nameless depressed point, and cordillera without name, marked with Nos. 307 to 310, separate the hydrographic basin of the Chilean River Cisne from that of the Argentine River Senguerr.

"The points called cordillera without name, 311; Katterfield Peak, 312; accessible section, 313; Vuelta del Ñirehuau, 314; and Pantanos de Coihaique, 315, separate the hydrographic basin of the Chilean River Aisen from that of the Argentine River Mayo (Senguerr).

"The nameless point, occidental edge of the high table-land, marked with the number 316; accessible section, 317; and nameless point, 318, separate the hydrographic basin of the Chilean River Huemules, probably a tributary of the River Aisen, from that of the Argentine River Mayo (Senguerr).

"The point No. 319, accessible section, separates the hydrographic basin of the River Fénix, which runs to the lake Buenos Ayres, from that of the River Mayo (Senguerr).

"The points called Paricaique opening, 320, and nameless point (foot of the table-land), 321, separate the hydrographic basin of the Chilean River Fénix from that of the Argentine River Deseado.

"The points 322 to 323 comprise a great table-land of 1,500 metres in height, which separates the hydrographic basin of the affluents of the Chilean Lake Buenos Ayres from that of the streams, Eque, Teique, and Charcamaque.

"No. 324, the Jillo opening ('abra'), and No. 325, a section of high table-lands and mountain ranges, separate the waters which fall into Lake Cochrane and into two nameless lakes, which probably drain into Baker Inlet, on the Pacific Ocean, from the Argentine streams Jillo and Olni, which flow towards the Atlantic.

"No. 326, nameless cordillera, separates the waters of the sources of the Chilean rivers, which probably drain into the Pacific through Baker Inlet, from the sources which form

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the Argentine River Corpe (or Chico), which runs towards the Atlantic.

" The points 327 to 329 separate the waters of the affluents of Laguna Tar and Lake San Martin, which drain into the channels of the Pacific from the affluents of the Argentine Lake Obstáculo.

" No. 330, section of cordillera, which separates the waters which form the Argentine stream Chalia from the tributary sources of Lake San Martin, which drains into the inlets of the Pacific.

" No. 331, cordillera of Chalten, which divides the hydrographic basin of Lake Viedma (or Quicharre), which drains into the Atlantic, through the River Santa Cruz, from the Chilean sources which drain into the inlets of the Pacific.

" No. 332, Cordillera de Stokes, which divides the hydrographic basin of the Lake Argentino which drains into the Atlantic, through the River Santa Cruz, from the sources of the Chilean rivers which drain into the Patagonian inlets on the Pacific.

" The points Nos. 333 to 335, called Cordillera, Baguales Pass and Cordillera of the Baguales, divide the hydrographic basin of the sources of the Lakes Toro and Sarmiento, Baguales River, which drain into the Pacific, from the sources (of the streams) which fall into the Lake Argentino and River Santa Cruz.

" The points 336 to 342, called Sepulcro Summit, nameless pass, nameless pass, nameless small hill, nameless small hill, nameless small hill, and nameless point, in the Pampa, separate the hydrographic basin of the Rivers Vizcachas, Guillermo, Tres Pasos, tributary of the Lake Toro which drains into the Last Hope Inlet, from the hydrographic basin of the River Coile, which drains into the Atlantic.

" The Cordillera Latorre, 343 ; Barranco Hill, 344 ; nameless pass, 345 ; nameless pass, 346 ; nameless small hill, 347 ; point, 348, which is at the intersection of the 52nd parallel,

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separate the hydrographic basins of the Chilean Rivers Guillermo and Tres Pasos, tributaries of the Lake Toro and sources that flow to the Lake Balmaceda, which drains into Disappointment Bay (Desengaño), from the hydrographic basin of the Rivers Turbio and Rubio, affluents of the River Gallegos, which drains into the Atlantic.

“ The Commissioner of Chile believes it to be opportune to place on record that the following points of the dividing-line have been previously approved, and therefore must be considered as already fixed and accepted by both parties.

“ Placed by the First Sub-Commission :

“ Nos. 37, 38, and 39 at the Rincón de la Flecha, erected on the 15th April, 1897 ; No. 41 at La Flecha or Los Helados, on the 25th March, 1897 ; No. 42 at Los Tambos, on the 15th April, 1897 ; No. 45 at Valeriano, 46 at Soberado, 47 at Chollay, 48 at Los Amarillos, 49 at the Orijen del Rio Potrerillos, 50 at Potrerillo, 51 at Chivato, and 52 at Guanaco Sonso, on the 25th March, 1897 ; No. 53 at the origin of the Quebrada del Guanaco Sonso, and 54 an accessible point between the Pass of Sancarron and the Guanaco Sonso, on the 15th April, 1897 ; No. 55 of the Sancarron, 56 at Los Bañitos, 57 at La Deidad, 58 at Vacas Heladas, 60 at Las Tórtolas, and 62 at La Lagunita, on the 14th March, 1896.

“ These landmarks have been definitively approved by the Commissioners, as set forth in the Minute of the 22nd January, 1898.

“ Placed by the Second Sub-Commission :

“ No. 122, Contrabandista, proposed by the Argentine Sub-Commission and accepted by the Chilean, according to letter of the 12th May, 1898 ; No. 124, Iglesia ; 125, Bermejo ; 126, Navarro ; 129, Pircas ; 132, Tupungato ; 135, Piuquenes ; 137, Nieves Negras ; 138, Colina, proposed by the Chilean Sub-Commission and accepted by the Argentine, according to letter of the 9th May, 1898. The Nos. 141 and 142, Alvarado

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North and Alvarado South, erected as set forth in the Minute of the 8th May, 1897 ; the Nos. 145 and 146, of Rio Bayo, erected as set forth in the Minute of the 7th May, 1897 ; the Nos. 149 and 150, at Cruz de Piedra, erected as set forth in the Minute of the 2nd May, 1897 ; the No. 151, at Molina, as set forth in the Minute of the 1st May, 1896 ; the No. 153, at Las Leñas, as set forth in the Minute of the 4th March, 1895.

“ These landmarks have been definitively approved by the Commissioners, as set forth in the Minutes of the 11th October, 1895, the 5th February, 1897, and the 22nd January, 1898.

“ Placed by the Third Sub-Commission :

“ No. 155 at Las Damas, and 157 at Santa Elena, erected as set forth in the Minutes of the 8th and 18th March, 1894, and definitively approved by the Commissioners, as set forth in the Minute of the 15th October, 1895.

“ Placed by the Fourth Sub-Commission :

“ No. 235 at Reigolil, erected as set forth in the Minute of the 24th February, and No. 237 at Coloco, as set forth in the Minute of the 27th March, 1895. These landmarks have been definitively approved by the Commissioners, as set forth in the Minute of the 18th October, 1895.”

Finally, the Commissioner of Chile points out that, although he considers that the data in his possession are sufficient to establish that the Rivers Futaleufú and Pico, as well as the Lakes Buenos Ayres, Cochrane, and San Martin, drain towards the Pacific Ocean, the courses of these drainages have not yet been directly explored, and that he is therefore disposed to take into consideration any data with reference to these, which the Argentine Commissioner may submit.

The Commissioner of the Argentine Republic replied, that before coming to a resolution with regard to the various points embraced in the statement of his colleague, he requires some explanations with regard to the part that refers to the location of the boundary line, which says :

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"I have been guided solely and exclusively by the principle of demarcation established in the first clause of the Treaty of 1881, a principle which must be the invariable rule for the proceedings of the Commissioners, in accordance with the Protocol of 1893."

He considers it indispensable that it should appear in the Minutes of these Conferences that both Commissioners declare that the points in the general line of frontier which they are going to propose, to discuss, and to settle, are situated in the Cordillera de los Andes, in compliance with the dispositions of Article I. of the Treaty of 1881, by the Articles 1 and 2 of the Protocol of 1893, by Article 5 of the Chapter "Preliminary Operations of the Instructions for the Demarcation of the Cordillera de los Andes," given by the Commissioners on the 1st January, 1894, and by the basis Nos. 1, 3, and 6 of the Agreement of 1896; and as regards the boundary on the 52nd parallel by Article II. of the Treaty of 1881, Article 2 of the Protocol of 1893, and the basis 3 and 6 of the Agreement of 1896.

The Commissioner of Chile said, in reply, that before giving the explanations asked for by the Argentine Commissioner, he desires that this latter should make known to him his general plan of demarcation, which would give him the opportunity to ask him, also, such explanations as he may consider proper in regard to the principles on which he has established the same.

The Argentine Commissioner replied that he would give to the Chilean Commissioner the explanations he desired as soon as it was put on record that the discussion was carried on in accordance with the proposition laid down by him in the previous paragraph.

The Chilean Commissioner replied that he had no objection to declare that the location of the general line which he has proposed is in accordance with the provisions of the Treaties and Agreement, which have been quoted by the Argentine Commissioner.

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The Commissioner for the Argentine Republic said that the general frontier-line, which he would propose at a later stage, is situated in the central chain of the Cordillera de los Andes, and that it is no other than that which contains the high summits to which the Treaty of 1881 refers, and the principal chain of the Cordillera de los Andes, mentioned in the Protocol of 1893.

He added :

1. That he considered, as did the Chilean Commissioner, that this was not the moment to enter into lengthy discussions, although he did not believe that all the arguments for one side or the other were exhausted, and he accepted the methods of procedure indicated by his colleague, with the exception of that which referred to limiting the Conferences to "two or three meetings at most," in order to terminate the Resolution of the Commissioners with regard to the general line of frontier.

2. That he would present at the next meeting his general line, with the enumerative list of points or sections to which the first proposal referred, regretting that, owing to bad health during the previous few days, he was not able to present these data that day, and he pointed out that it was not possible for him to present at once the data mentioned by his colleague in reference to the points and sections proposed to him because he was waiting for these data to arrive by the next mail viâ the Straits of Magellan, it not having been possible for him to bring them, as they had not been ready when he left Buenos Aires.

3. He will accompany the enumeration of the points of the line which he will propose to the Commissioner of Chile, with some observations suggested to him by the explanations given by the Chilean expert.

4. That he accepts the second proposal, at the same time stating that it will not be possible for him to present a general plan similar to that of the Chilean Commissioner, of the part of the Cordillera de los Andes situated between the parallels

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38° and 52° south for at least four days from that date, and four days later, of the region comprised between the parallels 23° and 38° ; but that he had no objection to place at the disposal of his colleague, in the office of the Argentine Commission, the sheets of a map on the scale of 1 to 200,000, hoping, at the same time, that he himself would be allowed to examine, in the Chilean Commission Office, the sheets from which the general plan had been compiled.

5. That at a meeting, the date of which would be fixed by mutual consent, between the Commissioners, he would present—

(a) A schedule of the points and sections with regard to which the two Commissioners are in accord ;

(b) A schedule of the points and sections as to which they are not in accord.

6. He accepted the fourth proposal.

7. He accepted the fifth proposal.

8. He considered indispensable, and proposed to the Chilean Commissioner that they should exchange photographic or other reproductions of the sheets which had served to determine the general line proposed by each Commissioner, these reproductions to contain the points and sections of the said line.

9. They would also exchange reproductions of said plans, showing clearly the points or sections of the general line of frontier with regard to which both Commissioners were in accord, and similar reproductions, showing the points and sections in which they were in divergence.

10. The comparison indicated in the fourth proposal having been made, any modifications introduced into the tracing of the general line by the two experts in their respective lines should be recorded on copies of the same plans.

11. Having complied with the stipulations of the fifth proposal there would be recorded on the reproductions of the said plans :

(a) The general line through the points and sections

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which, by mutual accord, may have been fixed as the dividing line between the Argentine Republic and the Republic of Chile.

(*b*) The line through the points or sections which, on account of not being agreed by the Commissioners, have to be submitted to the two Governments for the purposes foreseen in the Treaties.

12. They should draw up and bring to the knowledge of the Governments for their decision, in accordance with the Agreement of 1896, special Minutes containing the line proposed by both Commissioners as the dividing line in the Cordillera de los Andes between the parallels 23° and $26^{\circ} 52' 45''$ indicating the lines proposed, the portions accepted or rejected in the whole extension, or in part, and accompany these with reproductions of the same plans which must clearly show the details of the different lines.

13. They should also draw up Minutes setting forth that the Commissioners have complied with the stipulations laid down in the last part of Article 2 of the Protocol of 1893 and the basis 3 and 6 of the Agreement of 1896, and the Resolutions which they may adopt. They should exchange at the same time copies of the plans upon which they may have drawn the dividing lines which they propose to be adopted, if the case should arise provided for in the said Protocol and Agreement.

14. The lists of names referred to in the last paragraph of the fourth proposal should be read at the Conference to be agreed between the Commissioners ; these to be entered on the Minutes and duplicate copies to be made for signature by both Commissioners for their respective Governments, accompanied by the observations which may be thought proper, and by the several reproductions of the plans on which they may have based their decision. The points and spaces referred to in paragraphs (*a*) and (*b*) of the said proposal to be inserted separately on the said plans.

15. The Resolutions Nos. 12 and 13 should be taken before

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deciding upon the general frontier-line in the Cordillera de los Andes, between the parallels $26^{\circ} 52' 45''$ and 52° , and to be sent immediately to the Governments.

16. The copies of the whole of the plans referred to in this general Minute should represent the field of demarcation on a scale not less than 1 to 400,000, and that they should be signed by both Commissioners. If these copies were photographic they should be replaced within a period not exceeding three months by copies drawn by hand on paper or tracing cloth.

17. Once all the above being done the Commissioners should be considered as having, on their part, terminated the presentation of the general line of frontier between the Argentine Republic and the Republic of Chile.

18. By a special Minute the Commissioners should decide the form and the time in which the Mixed Sub-Commissions should proceed with the material demarcation in detail on the ground of the points on which they were agreed for determining the frontier-line, by putting up boundary landmarks in all passes and at all accessible points of the mountains which are situated on the said line; and Minutes of the operation to be entered recording that they set up such landmarks by express orders of the respective Commissioners. The assistants of these Mixed Sub-Commissions should reproduce in their Minute the respective parts of the Agreements between the Commissioners referring to the general frontier-line; for this object the Commissioners would hand to their assistants copies of the plans upon which the points and sections of the dividing-line, as approved by them, were marked.

19. The landmarks which are to be placed in future on the dividing-line, as well as those to replace the provisional ones which have been approved should be constructed of masonry or of iron, and with their principal faces looking towards the boundary-line. Upon these faces should be inscriptions giving the name of the respective countries which they separate.

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20. He adds, in conclusion of his answer to the statement of the Chilean Commissioner, that he considers as already fixed as points of the frontier-line those mentioned on pp. 61 and 62 of this Minute Book, upon which provisional landmarks already definitively approved have been erected.

The Commissioners drew up copies of this Minute in duplicate, which they both signed.

Note.—The words “ in the International Boundary Office,” marked in parenthesis, are deleted.

(Signed) DIEGO BARROS ARANA.
ALEJANDRO BERTRAND.
FRANCISCO P. MORENO.
ENRIQUE S. DELACHAUX.

**Record of the Meeting of the Experts
on September 1, 1898.**

**Chilean and Argentine Proposals
for the Boundary near the 52nd parallel.**

IN the City of Santiago de Chile, on the 1st September, 1898, at a meeting at which there were present the undersigned Commissioners, Don Diego Barros Arana, on the part of the Republic of Chile, and Don Francisco P. Moreno, on the part of the Argentine Republic, with the object of arriving at a settlement with regard to the general line of frontier in conformity with the Agreement made at the Conference of the 1st May, 1897, and of that which took place in the Office of His Excellency the President of Chile on the 14th May last, stated respectively as follows :

The Commissioner for the Argentine Republic said :

1. That in conformity with the contents of paragraph 13 of his exposition as set forth in the Minutes of the meeting of the 29th August last, and with what was agreed at the meeting which took place on the 1st May of last year, and to comply with the stipulation in the last part of Article II. of the Protocol of the 1st May, 1893, and to the third basis of the Agreement of the 17th April, 1896, the fifth Argentine Sub-Commission of demarcation had carried out the studies as ordered by the Commissioners on the 28th April, 1897, to ascertain whether

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the case has arisen foreseen in the said Protocol and Agreement, and with these to place the Commissioners in a condition to comply with the stipulations set forth in the said Agreements.

2. That from these studies and observations, which he had made personally on the spot, he declared that he held the firm conviction that, in point of fact, the Cordillera de los Andes appears to enter amongst the inlets which actually exist in the peninsular part of the south, on approaching or nearing parallel 52° , and that the waters of these inlets bathe the coast of lands which do not belong to the Cordillera de los Andes, which is situated to the west of said inlets.

3. That the geographical fact of the existence of plains to the east of the sea-water inlets situated to the east of the Cordillera de los Andes, had been ascertained in 1557 by the pilot Ladrillero, in 1830 by the British hydrographers, Skyring and Kirke, during the expedition of the *Beagle*, in 1877 by Lieutenant T. F. Rogers of the Chilean navy, and by the Chilean naturalist, E. Ibar, and in 1885 by the Chilean Civil Engineer, Don Alejandro Bertrand, who says that it is "demonstrated in an incontrovertible manner that at the latitude 52° the Cordillera de los Andes sheds (the waters of) all its sources into the waters of the Pacific."

4. That he requires to know the opinion of the Commissioner of Chile upon this point, so that if they were both agreed in regard to it they might proceed to give compliance to the stipulations of the Protocol and Agreement cited.

The Chilean Commissioner replied that, as regards what had just been said by his colleague, respecting the extension of the Cordillera de los Andes into the maritime channels of the Pacific in the neighbourhood of parallel 52° , it agreed with his own views as far as they apply to several high mountain ranges of the Cordillera de los Andes, but not to the whole of same inasmuch as other branches of same also extended on the continent towards the north of the Last Hope Inlet.

Near the 52nd Parallel.

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He adds that he does not give to the proposition just put forth a character of immediate importance, inasmuch as the survey of the ground made by the Chilean Commission to fix a dividing-line which would leave to Chile the coasts of the inlets or channels led him to the conclusion that the natural inland boundary of the said coast region is no other than that of the hydrographic basin which is drained by it; that such limit is at the same time that which best agrees with the spirit of the Treaty of 1881; and that, in consequence, he had placed it in this form in the proposal of the general line presented to his colleague in order that if he (the Argentine Commissioner) does not accept it, it may be considered by the Governments as the result of the studies made by him (the Chilean Commissioner) to serve as a basis for the decision of the Arbitrator, who would have to decide with regard to the dividing-line in that region, in conformity with the stipulations of the last part of Clause III. of the Agreement of 1896.

The Argentine Commissioner having stated that, in his opinion, there should be submitted to the Government a separate Minute with regard to this question, the Chilean Commissioner gave the following details of the line to which allusion was made in the preceding paragraph.

Section or part of Cordillera which separates the sources which flow into the southern inlet of the Lake Argentino from those which fall towards the lakelets to the north of the Cordillera de Paine; Baguales Pass, water-parting line in the Cordillera de los Baguales, between the sources of the tributary streams of the Lake Argentino and those of the River Baguales.

The point called Sepulcro summit in the Cordillera de los Vizcachas, the line dividing the waters between the Rivers Vizcachas, Guillermo, Tres Pasos, tributaries of the Lake Toro or Maravilla, which drains into the Last Hope Inlet, from the hydrographic basin of the River Coile which drains into the Atlantic.

Chilean and Argentine proposals.

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The Cordillera Latorre, Barranco Hill, nameless pass, nameless hillocks, point on the parallel 52°, following the water-parting line between the hydrographic basins of the Rivers Guillermo and Tres Pasos, and sources which flow into the Lake Balmaceda, and Disappointment Bay (Desengaño), to the Pacific side, from the hydrographic basins of the Rivers Turbio and Rubio, affluents of the River Gallegos to the Atlantic side.

The Commissioner of the Argentine Republic stated that considering that, in the present case, in order to leave to Chile the coast of the channels on the Pacific in the southern peninsular part to the east of the Cordillera de los Andes in accordance with the provisions of the Protocol of 1893 a frontier-line between Chile and the Argentine Republic must be adopted similar to that agreed upon by the Commissioners and approved by their respective Governments between Mount Dinero and Mount Aymond according to the acts of the fifth Joint Sub-Commission of the 8th January and 15th April, 1896, and in those of the Commissioners of the 28th April and the 6th May, 1897, and the 22nd January, 1898 ; he proposes that this line should start from the landmark XLII. indicated provisionally by the Argentine Sub-Commission, should follow northward the southern affluent of the River Tranquilo, flowing immediately to the north of said landmark, up to the River Tranquilo; that it should follow this river up to the lakelet out of which it flows, cutting this lakelet in the direction of the stream which enters it to the north, and which in its turn flows out of a second nameless lakelet into which drains the stream Edelmiro. The dividing-line shall follow this stream until it leaves the line of glacial hills bounding on the north the plains of Diana ; it shall continue by the edge of these hills up to the south-west point of the Tableland Dorotea, and from this point in a straight line to the north-west, passing between the Lakelet Cueva and the Inlet Consuelo, up to the confluence of the River Geikie with the River Serrano. It shall follow this

Near the 52nd Parallel.

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River Geikie up to the line of the slopes on the summit of the principal chain of the Andes.

Both Commissioners resolved, in view of the divergence which appears in the above expositions, to submit to their respective Governments a certified Minute for eventual requirement.

The Commissioners drew up and signed these present Minutes in duplicate.

(Signed) DIEGO BARROS ARANA.
ALEJANDRO BERTRAND.
FRANCISCO P. MORENO.
ENRIQUE S. DELACHAUX.

Record of the Meeting of the Experts on September 3, 1898.

Containing the Argentine Proposal for a General Frontier Line.

IN the City of Santiago de Chile, on the 3rd September, 1898, the undersigned Commissioners present : Don Diego Barros Arana, on the part of the Republic of Chile, and Don Francisco P. Moreno, on the part of the Argentine Republic, with the object of settling upon the general line of frontier in conformity with the Agreement at the Conference held on the 1st May, 1897, and that which took place in the Office of His Excellency the President of Chile on the 14th May last.

The Commissioner of the Argentine Republic said :

That the general line of the frontier between the parallel of $26^{\circ} 52' 45''$ and the point in which the culminating line of the principal chain of the Cordillera de los Andes where the River Geikie takes its origin on the parallel of $51^{\circ} 41'$, will run through the following points or sections :

Pirca de Indios, on the Argentine plan (1), Cenizo Hill (2), Tres Cruces Hill (3), Lamas Hill (4), Los Patos Gap (5), Los Patos Hill (6), Agüita Pass (7), Agüita Hill (8), Tres Quebradas Hill (9), Tres Quebradas or Toro Muerto Pass (10), Valle Ancho (11), Arroyo Pampa (12), Lagunilla Gap (13), Lagunilla or Vidal Gormaz Hill (15), Quebrada Seca (nórt) (16), Vegas de Quebrada Seca Hill (17), Quebrada Seca (south) (18), Peñasco de Diego Pass (19), Pircas Negras Pass (20), Come Caballo

Argentine proposal.

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Pass (21), Come Caballo Hill (22), Deshecho de Peña Negra Pass (23), Caserones de la Ollita Hill (24), Ollita Hill (25), Ollita or Ramadilla Pass (26), Colorado Hill (27), Potro Hill (28), accessible point on the River Los Mogotes (29), accessible point on the brook Macho Muerto (30), Macho Muerto Pass (31), Inca Pass (32), Rincon de la Flecha Pass (landmark 3) (33), Rincon de la Flecha Pass (landmark 2) (34), Rincon de la Flecha Pass (landmark 1) (35), nameless accessible point, western slope of the Flecha or of Los Helados Hill (36), Flecha or Los Helados Pass (37), Tambos Gap (38), Nevado de Los Tambillos (39), Toro Hill (40), Valeriano Pass (41), Soberado Pass (42), Chollay Pass (43), Amarillos Pass (44), Orijen del Rio Potrerillos Pass (45), Potrerillos Pass (46), Chivato Pass (47), Guanaco Sonso Pass (48), origin of the Quebrada Guanaco Sonso (49), nameless accessible point, between the Pass of Sancarron and that of the Guanaco Sonso (50), Sancarron Pass (51), Bañitos Pass (52), Deidad Pass (53), Vacas Heladas Pass (54), Vacas Heladas Hill (55), Tórtolas Pass (56), Tórtolas Hill (57), Lagunita Pass (58), Bañados Hill (59), Agua Negra Pass (60), Nevado de Porongos or Olivares (61), Agua Negra Gap (portezuelo) (62), Quebrada Colorada Pass (63), Rio Blanco Pass (64), San Lorenzo Pass (65), Rio Seco Pass (66), Vallecito Pass (67), Ternero Gap (68), Varona Pass (69), Santa Rosa Pass (70), Castillo Pass (71), Miranda Pass (72), Viento Pass (73), Vientecillo Pass (74), Guana Pass (75), Portillo Pass (76), Valle Hermoso Pass (77), Delgado Pass (78), Delgadito Pass (79), Pass of the source of the stream Azules (80), Azules Pass (81), Gordito Pass (82), Verde Pass (83), Salina Pass (84), Coipa Pass (85), Overa Lagoon Passes (86 and 87), Palacios Pass (88), Vacas Muertas Pass (89), Soberado Pass (90), Araya Pass (91), Calderon Pass (92), Azufre Pass (north) (93), Azufre Pass (south) (94), Rio Negro Pass (95), Burros Pass (96), Tres Quebradas de Illapel Pass (97), Portillo Pass (98), Casa de Piedra Pass (99), Leones Pass (100), Orijen Leones Stream Pass (101), Chalinga Pass

Argentine proposal.

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(102), Pachon Pass (103), Mondaca Pass (104), Salitre Pass (105), Yunque Pass (106), Ojota Pass (107), Mercedario Pass (108), Cencerro or Gredas Pass (109), Laguna Pelada Pass (110), Teatinos Pass (111), Llaretas River Pass (112), Portillo Pass (113), Valle Hermoso Pass (114), Quebrada Honda Gap (115), Rubio Pass (116), Leiva Pass (117), Volcan Pass (118), Cuevas Pass (119), Contrabandista Gap (121), Escondido Gap (122), Iglesia Pass (123), Bermejo Pass (124), Navarro Gap (125), inaccessible section (126), Plomo Hill (127), Pircas Pass (128), Morado Gap (129), Chimbote Hill (130), Polleras Hill (131), Tupungato Gap (132), Tupungato Hill (133), Bravard Volcano (134), ridge to Piuquenes (135), Piuquenes Hill (136), Piuquenes Gap (137), Marmolejo Hill (138), San José Volcano (139), Nieves Negras Pass (140), Colina Pass (141), Nevado Peak (142), Gorro Hill (143), Amarillo Hill (144), Alvarado Hill (145), Alvarado Pass, (north) (146), Alvarado Pass (centre) (147), Alvarado Pass (south) (148), Maipo Volcano (149), Maipo Pass (150), Eastern Gap of the Rio Bayo (151), Rio Bayo Pass (152), Western Gap of the Rio Bayo (153), Rio Bayo Hill (154), Cruz de Piedra Gap (155), Cruz de Piedra Pass (156), Molina Pass (157), Atravieso Hill (158), Leñas Pass (159), Lágrimas Gap (160), Damas Pass (161), Santa Elena Hill (162), Santa Elena Pass (163), Tiburcio Pass (164), Vergara Pass (165), Lagunas del Planchón or Teno Pass (166), Planchón Pass (167), Planchón Hill (168), Baños de Azufre Hill (169), Peteroa Hill (170), Peñón Hill (171), Valenzuela Pass (172), Valle Grande Pass (173), Potrerillos Pass (174), Fierro Pass (175), Devia Pass (176), Peñas Pass (177), Montañas Pass (178), Montañesito Pass (179), Mora Hill (180), Mora Pass (181), Yeso Pass (182), Angeles Pass (183), San Francisco Pass (north) (184), San Francisco Pass (south) (185), Cajón Chico Pass (186), Trolon Pass (187), Trolon Pass (centre) (188), Pichi-Trolon Pass (189), Overas Pass (190), Cajon Grande Pass (191), Campanario Hill (192), Campanario Pass (193),

General Frontier line.

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Maule or Pehuenche Pass (194), Guanaco Pass (195), summit without name (196), Laguna Negra Pass (197), Barrancas Pass (198), Sepúlveda Gap (199), Laguna Fea Gap (200), (?) nameless summit (201), Portillo Pass (202), Benitez or Puerta Nueva Pass (203), Puerta Vieja Pass (204), Valdes Pass (205), Macho Pass (206), nameless accessible point (207), Saco Pass (208), Dial or Chañas Pass (209), Matancilla Hill (210), Catrino Pass (211), Piuquenes Pass (212), Cajon or Cerro Colorado Pass (213), Marcos Pass (214), Zaña-Zaña Pass (215), Diucas Pass (216), Mariposas Pass (217), Cajón Negro Pass (218), Lumabia or Salitre Pass (219), Pincheira Pass (220), Laguna de Epulauquen (221), Pajaritos Pass (222), Buraleo Pass (223), Columpio Pass (224), Atacalco Pass (225), accessible point Tábanos (226), Buta Mallin Pass (227), Pichachen Pass (228), Picunleo Pass (229), Copulhue Pass (230), Trapa Trapa Pass (231), Chanchoco Hill (232), Copahuitos Pass (233), Copahue Pass (234), Copahue Hill (235).

At Cerro Copahue the principal or central chain of the Cordillera de los Andes directs itself to the South and cuts across the River Bio-Bio. The Argentine Commissioner declares that, adhering strictly to the letter of the Treaty of 1881 and to the Protocol of 1893, on making the demarcation of the dividing-line on the ground, this line ought to cut the Bio-bio, because he considers that the mountains situated to the east of the upper course of the river do not belong to the principal chain of the Cordillera de los Andes, but ceding to reasons of justice and equity he accepts the line proposed by the Chilean Commissioner from the Cerro Copahue, which comprises the passes: Pucon Mahuida (236), Coliqueu (237), Collochue (238), Pulul (239), Rahue (240), Codihue (241), Pino Hachado (242), El Arco (243), Icalma (244), to the Santa Maria Pass (245), which is comprised in the central range or principal chain of the Andes, leaving in this manner the upper valley of the Bio-Bio in the territory of the Republic of

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Argentine proposal.

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Chile. In taking this course he declares that he is acting within the powers of his office, and takes into consideration that, at the time the Treaty of Limits was signed, it was the general belief in Chile, based upon official documents, that this valley was situated to the west of the ridge or culminating line of the Cordillera or principal chain of same, and consequently in Chilean territory.

The Commissioner of the Argentine Republic believes that it is his duty to strive that the line of frontier, which he has been charged to lay down on behalf of his country may be established in a form satisfactory, equitable, and just, based upon the letter and in the spirit of the Treaty of 1881, and in accordance with the idea which has guided this agreement, and the others made afterwards, determining the location of this line, and bearing in mind the state of knowledge with regard to the topography of the Cordillera de los Andes in the years when the negotiations of that Treaty were carried on. At that time the general dividing-line of the waters of the Cordillera was considered as inseparable from its central and dominant chain and the crest of this chain, that is to say, the snow-clad chain of the historians and geographers of all previous ages, was for the men who signed the Treaty of 1881, and for those who accepted it, the only international limit, even though they were not ignorant of the fact that this chain was cut, not only in one, but at several places, by rivers which have their sources to the east of it.

He declares further, that the acceptance by him of the line of frontier between the Volcano of Copahue and the Pass of Santa Maria, for the reasons stated, cannot and should not be taken as a precedent from which to establish other points on the same dividing line.

From the Pass of Santa Maria the line will continue by the Llama Pass (246), Necollahui Pass (247), Reigolil Pass (248), nameless summit (249), Coloco Pass (250), Malalco Pass (251),

General Frontier line.

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Rilul Pass No. 1 (252), Rilul Pass No. 2 (253), Rasgado Pass (254), Huirinlil Pass (255), Hill to the north of Añihueraqui (256), Añihueraqui Pass No. 1 (257), Añihueraqui Pass No. 2 (257*a*), Truomen Pass (258), Mamuil-Malal Pass (259), Lanin Volcano (260), Paimun Pass (261), Quetru Pass (262), Paimun Hill (263), Carirriñe Pass (264), Nameless hill, 2170 metres (265), and Perihuaico Hill (266).

Up to this point the dividing-line from the Hill of Santa Maria has followed that of the watersheds of the principal chain or range of the Andes without cutting rivers ; but at the foot of Perihuaico Hill runs the River Huaúm, which drains the Lakes Lacar and Nontué, situated to the east of the principal range of the Cordillera de los Andes, and, consequently, the dividing-line must cut the River Huaúm in accordance with the provisions of Article 2 of the Protocol of the 1st May, 1893. The dividing-line will cut this river at its confluence with the Rivulet Mahihuen (267), it will follow this stream up to the top of the hill marked 1800 (268), in the Argentine Map, and will go on to that marked 2100 (269) ; it will pass by the gap, (boquete) of Ipela, 270 ; by the hills marked 1920 (271) and 2260 (272), 1990 (273), 2100 (274), and 2150 (275), and by the line of the watersheds of the principal range up to the Mirador Hill (276) ; Puyehue Hill, (277) ; Pantojo Hill (278) : Esperanza Hill (279) ; Raulies Pass (280) ; Perez Rosales Pass (281) ; top of Mount Tronador (282) ; and will continue by the line of the watersheds of the snow-capped hills which prolong themselves to the south, separating the Rio Blanco (283), from the stream which feeds Lake Fonck, and by the ridge of the same hills which separate the watersheds in the Christie Pass (284) ; it will cut the River Manso at the narrow part, 285, of its turn to the north and will follow by the series of snowy summits of the principal chain of the Andes to the east of the said river, between it and the Grande Valley (286) ; it will cut the River Puelo (287), prolonging itself, always following the principal

range, passing by the gap which separates the source of the River Bodudahue from the sources which feed the Lake Menendez, by the gap (boquete) of Navarro (289); continuing to the south by the same line of watersheds of the central snowy chain which feeds the sources of the River Corcovado and those of the lake system of the River Futaleufú, and passing to the east of the River Frio or Futaleufú, by the culminating line of the Cerro Blanco (290), will cut the River Palena at the line of the Blanco (291), and Serrano Hills (292). It will follow by the watershed of the Cadena Nevada by the Morro Hill (293); Maldonado Hill (294); Puntagudo Hill (295); Nevado del Sur (296); which feeds the River La Torre and the western tributaries of the River Frias; it will pass by the gap situated east of the Esperanza Hill (287); will cut the River Cisnes or Frias in a direction towards La Torre Hill (298); following by the line of watersheds of the same snowy chain which bounds on the west the Lake of La Plata, in the direction of San Clemente Hill (299); of the same central chain or principal range, cutting the River Aisen or Simpson (300), in the vicinity of its confluence with the River Mañuales and the River Huemules. From the top of the Hill San Clemente, following the general crest of the chain, the frontier-line will continue to the Hill San Valentin and from this by the culminating ridge (301), of the slopes of the chain, cutting the River Las Heras, on to the gap marked with the figures 1070 (302) in the Argentine plan. From this point the line will continue to the south-south-east so as to meet the crest of the same snowy chain (303), which commands on the west the Lake San Martin, cutting the drainage (channel) of the said lake; it will follow by the said crest by the Fitz-Roy Hill (304), the hills which rise at the glacier of Lake Viedma (305), and the high snowy summits of the Cordillera up to the Geikie Hills (306), indicated at the beginning of this proposal of the general line, situated in the line of the high summits or principal range of the Cordillera de los Andes.

From the Geikie Hills the dividing-line in the Cordillera de los Andes will run along the same range to the point which the respective Governments will fix as its terminus, in accordance with the dispositions of the last part of the 2nd Article of the Protocol of the 1st May, 1893.

Within the points and sections which are indicated in this proposal for the general line, the Mixed Sub-Commissions will proceed to the demarcation in detail, in accordance with the dispositions of Article 5 of the instructions given by the Commissioners for the demarcation of the Cordillera de los Andes on the 1st January, 1894.

The Commissioners drew up and signed these present Minutes in duplicate.

(Signed) DIEGO BARROS ARANA.
 ALEJANDRO BERTRAND.
 FRANCISCO P. MORENO.
 ENRIQUE S. DELACHAUX.

**Records of the Meetings of the Chilean Minister for
Foreign Affairs and the Argentine Plenipotentiary
at Santiago.**

First Minute (September 15, 1898).

AT the Department of Foreign Affairs of Chile, being present, Señor Don J. J. Latorre, Minister of Foreign Affairs and the Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic, Señor Don Norberto Piñero, duly authorized, for the purpose of considering the Minutes and antecédents relative to the general frontier line, submitted by the Commissioners, and to insure the faithful fulfilment of the existing international Treaties and Agreements, the Minister of Foreign Affairs declared :

“ That the Chilean Government maintains and supports in all particulars the general line of frontier indicated by its Commissioner, in the Minutes signed by the Argentine Commissioner on the 29th August, 1st and 3rd September of the present year.”

The Minister Plenipotentiary declared on his part :

“ That his Government maintains and supports, also, in all particulars, the general line of frontier indicated by its Commissioner in the Minutes above mentioned.”

With the object of facilitating the investigation and resolutions in respect of all the points comprised in the boundary question, the Ministers agreed to treat separately each one of its points, viz. :

Minute of September 15, 1893.

(55)

(a) That relating to the boundary in the region comprised between parallel 23° and $26^{\circ} 52' 45''$ south latitude.

(b) That relating to the boundary from the parallel $26^{\circ} 52' 45''$ to the proximity of parallel 52°

(c) That relating to the boundary in the region neighbouring parallel 52° , to which the last clause of Article 2 of the Protocol of 1893 refers.

In each case the Minutes of the Commissioners must, first of all, be read.

The Conference then terminated, by signing, in duplicate, this Minute, this 15th day of September, 1898.

(Signed) J. J. LATORRE.

N. PIÑERO.

Second Minute (September 17, 1898).

(Translation.)

AT the Department of Foreign Affairs of Chile, being present the Minister of Foreign Affairs, Señor Don J. J. Latorre, and the Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic, Señor Don Norberto Piñero, the Minutes having been read of the Commissioners of the Argentine Republic and of Chile of the 1st and 3rd of the present month relating to the boundary between both countries in the region comprised between parallel 23° and $26^{\circ} 52' 45''$ to which the first basis of the Agreement of the 17th April, 1896, refers: the lines proposed by said Commissioners having been examined, and it not having been possible to arrive at any mutual conclusion, it was resolved to suspend the consideration of the matter.

As a record of the above, the Minute of the present proceedings were signed in duplicate the 17th day of September, 1898.

(Signed) J. J. LATORRE.
N. PIÑERO.

Third Minute (September 22, 1898).

(Translation.)

AT the Department of Foreign Affairs of Chile, being present the Minister of Foreign Affairs, Señor Don Juan José Latorre, and the Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic, Señor Don Norberto Piñero, the Minutes having been read of the Commissioners of the Argentine Republic and of Chile of the 29th August and 3rd September, in which the said functionaries have laid down the line which, in the judgment of each of them, must separate the Republic of Chile from the Argentine Republic from the parallel $26^{\circ} 52' 45''$ south latitude up to the region neighbouring to parallel 52° , the following was ascertained :

1. That the line submitted by the Chilean Commissioner starts from the " San Francisco Pass " and that of the Argentine Commissioner from the " Pirca de Indios."

2. That the lines of both Commissioners agree from " Tres Cruces " Hill, southern summit, up to " Perihuaico " Hill in the points and sections designated with the Nos. 10 to 256 of the Chilean Commissioner's list and 3 to 266 of the Argentine Commissioner's list ; and in addition in the points and sections designated with the Nos. 263 to 270 of the Chilean Commissioner's list and 275 to 281 of the Argentine Commissioner's list ; and, lastly, in those indicated by the Nos. 331 and 332 by the former and 304 and 305 by the latter.

Minute of September 22, 1898.

(58)

3. That the line of the Chilean Commissioner differs from that of the Argentine in the points and sections indicated by the first with the Nos. 1 to 9, and 1 and 2 by the second ; in the points and sections indicated by the first with the Nos. 257 to 262 and 267 to 274 by the second ; in the points and sections indicated by the Nos. 271 to 330 by the first and 282 to 303 by the second ; and in the points and sections indicated by the Nos. 333 to 348 by the first and by the Nos. 306 and other not numbered points which follow in the list of the second, it being recorded that these last points and sections of the list of one and the other Commissioner are the same referred to in the Minute of the 1st September, relating to the boundary in the region near to parallel 52° .

The Minister Plenipotentiary of the Argentine Republic stated that, in the communication by which the antecedents relating to the general line of frontier have been submitted to him, the Argentine Commissioner affirms that the points and sections indicated by the Chilean Commissioner with the Nos. 1 to 9 inclusive, 278 to 330 inclusive, and 333 to 348 inclusive also, are not found situated in the Cordillera de los Andes as ordered by the Treaties and in the form they prescribe. For this reason he invites the Chilean Government to reconsider them after a fresh survey.

The Minister of Foreign Affairs of Chile replied that the Chilean Commissioner had informed his Government that the points and sections to which the Argentine Minister has just referred were found situated in the Cordillera de los Andes, as ordered by the Treaties, and in the form they prescribe. He would therefore wish that the Argentine Minister would not insist in asking for new studies on these points and sections, so that they may be taken into consideration in the same manner as the other points in disagreement.

In view of the foregoing contradictory declarations, which produce a question that the Arbitrator alone can decide, and

Minute of September 22, 1898.

(59)

it not having been possible to arrive at any direct arrangement, the Minister of Foreign Affairs of Chile and the Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic agreed, in the name of their respective Governments, to transmit to that of Her Britannic Majesty a copy of the present Minutes, of the Minutes read of the Commissioners, and of the International Treaties and Agreements existing, so that, in accordance with the second basis of the Agreement of the 17th April, 1896, it may decide the differences above recorded.

They agreed, in conclusion, that the delivery of the documents mentioned to Her Britannic Majesty's Government shall be effected through the medium of the diplomatic Representatives of the Argentine Republic and of Chile accredited to that Government, who shall inform the British Government that the difficulty foreseen by the second basis above mentioned of the Agreement of the 17th April, 1896, having arisen, it may proceed to appoint the Commission, which shall verify the previous survey of the ground, and settle the differences collectively in one single decision.

As a record of this meeting, two copies of these Minutes have been signed this 22nd day of September, 1898.

(Signed) J. J. LATORRE.
N. PIÑERO.

Fourth Minute (September 22, 1898).

(Translation.)

AT the Department of Foreign Affairs, Don Juan J. Latorre, Minister of Foreign Affairs, and the Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic, Señor Norberto Piñero, being present, and having read the Minute of the Commissioners, dated the 1st of the present month of September, relative to the line which is to separate the Argentine Republic from Chile in the region neighbouring parallel 52° south latitude, and in view of the differences of the said Commissioners recorded in the said Minute, as well respecting the circumstance whether the Cordillera de los Andes penetrates or not, totally or partially, into the inlets of the Pacific, as also respecting the boundary-line to be adopted there, in order to leave to Chile the coasts of those channels, and it not having been possible to arrive at a direct agreement, the Minister of Foreign Affairs of Chile and the Argentine Minister Plenipotentiary, in the name of their respective Governments, agreed to remit to that of Her Britannic Majesty, in the manner which is determined in another Minute of this date, copy of the present Minute, and of that of the Commissioners before mentioned, so that, in accordance with the third basis of the Agreement of the 17th April, 1896, it may settle the differences referred to, and determine the boundary-line in the above-

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named region, having previously caused the ground to be surveyed by the Commission which it shall appoint for the purpose.

As a record of the above, two copies of this Minute are signed in Santiago, this 22nd day of the month of September, 1898.

(Signed) J. J. LATORRE.
N. PIÑERO.

A P P E N D I X

PART 2

Documents and Extracts from Various
Authors

No. 1.

FRANCISCO DE CAMARGO. Gobernacion and Captaincy-General.

[Translation of a document existing in the General Archives of Indies, Seville, a certified copy of which is kept at the Chilean Legation in London.]

(Quoted on pp. 12 and 13 of the Statement.)

WHEREAS you, Francisco de Camargo, resident and alderman of the town of Plazencia, our subject, have offered yourself, in view of the goodwill which you have to serve us and of enlarging the dominions of our Royal Crown of Castille, to go forth to conquer and settle the lands and provinces to be conquered and settled on the coast of the South Sea, from the point of termination of the two hundred leagues which on the said coast are given as a Gobernacion to Don Pedro de Mendoza, down to the Straits of Magellan, and then, following up the entire coast and land of the said Straits as far as the other sea, to the degree corresponding to that degree in the said South Sea, where the Gobernacion of Don Pedro de Mendoza ends and where yours begins, and the islands which are situated in the region of the said lands and provinces which you must conquer and settle in the said South Sea provided they be within our demarcation as to which I ordered a true record and capitulation to be made, in which there is the following disposition :

Moreover, considering it to be compatible with the service of God, our Lord, and in order to honour your person and confer on you a favour, we promise to appoint you for life our Governor and Captain-General of the lands, provinces

Quoted p. 12

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and people to be found on the said coast of the Southern Sea, from the point of termination of the two hundred leagues which are given as a Gobernacion to Don Pedro de Mendoza down to the Straits of Magellan, and then, following up the entire coast and land of the said Straits as far as the other sea to the degree corresponding to that degree in the said South Sea where the Gobernacion of Don Pedro de Mendoza ends and where yours begins, with a salary of two thousand gold ducats a year and two thousand ducats for supplementary expenses, in all four thousand ducats, which you shall enjoy from the day you may sail from these Kingdoms to effect the said conquest and settlement, which said four thousand ducats of salary and for expenses will be paid you from the revenues and profits belonging to us in the said land which we may receive during the time of your Gobernacion and in no other manner whatsoever.

Therefore, in keeping with and fulfilment of the said capitulation and disposition which is incorporated above, by these presents it is our pleasure and will that now and henceforward for the term of your natural life, you shall be our Governor and Captain-General of the said land, provinces and cities existing on the said coast of the South Sea, where terminate, as has been said, the two hundred leagues which have been given in Gobernacion to the said Pedro de Mendoza down to the Straits of Magellan, and then, following up the entire coast and land of the said Straits as far as the other sea, to the degree corresponding to that degree in the said South Sea where the Gobernacion of the said Don Pedro de Mendoza ends and where yours begins; and that you may possess and exercise our civil and criminal justice in the cities, villages and sites which in the said lands and provinces are settled, and may be settled from now onwards, with the courts of justice existing there, and by this our letter we command the Councils, magistrates, aldermen, knights, esquires, officials and law-abiding men of all

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the cities, villages and sites existing in the said lands, provinces and cities and which may be settled, and our officials and other persons residing in them, that each of them, so soon as they are notified, may, without any adjournment or delay, other notification or consultation, without waiting or expecting any other letter, command, or second or third notification, may take or accept from you, the said Francisco de Camargo, and from your Lieutenants whom you may appoint, dismiss or transpose whenever you may wish or deem requisite, the oath and formalities prescribed in this case and which you must fulfil; this being done, they may recognise, receive and consider you as our Governor and Captain-General and Magistrate of the said lands and provinces for all your life as has been said, permitting you to use and exercise freely the said faculties and fulfil and execute in them our justice in your own person and the persons of your Lieutenants, whom you may nominate and appoint in the said capacity of Governor, Captain-General, and High Constable and other posts attached to and concerning the said Gobernacion; whom you may dismiss and remove when and whensoever you may consider it advisable for our service and the execution of our justice to appoint and authorise others in their places to hear, consider and decide all causes and suits, civil as well as criminal, which in the said lands, provinces and cities may arise between the people who may go there to settle them as well as between the natives there existing and those hereafter to be born there, and you, as well as your Mayors and Lieutenants, may exercise the rights attached and belonging to the said post, and you may make any inquiries in cases of strict law and all and other undertakings concerning the said posts, and you and your Lieutenants may take cognizance of everything conducive to our service and the execution of our justice, settlement and Gobernacion of the said lands, provinces and cities, and in order to use and exercise the said offices and in fulfilling and executing our justice, they shall all conform

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to your wishes, together with the inhabitants and people, and they shall grant you and cause to be granted you whatsoever good will and assistance you may request and require, and in everything they shall respect and obey and fulfil your commands and those of your Lieutenants ; and in all that or any part thereof they shall cause no embarrassment or trouble whatsoever, nor consent that it be caused you, and we, by these presents, acknowledge and admit you to the said posts and to the use and enjoyment thereof, and we give you power and authority to use, exercise, accomplish and execute our justice in the said land and provinces, and in the cities, villages and sites of them and their territory in your name and in that of your said Lieutenants as has been said. In case you are not received by them or any of them, by this our letter we command any person or persons possessing or who may possess the representations of our justice in the said lands and provinces, that as soon as they may be notified by you, the said Francisco de Camargo, they shall relinquish their rights and not use them without our consent and special commands, subject to the penalty incurred by private persons who exercise public and royal authorities for which they have no power and faculty, and by these presents we suspend them and declare them suspended in the exercise of their duties.

Moreover, respecting the fines belonging to our Chamber and Treasury, which you and your Mayors and Lieutenants may impose, I command you to collect them and see that they are collected, and to give and deliver them to our Treasurer of the said land, and moreover it is our wish that should you, the said Francisco de Camargo, consider it in the interest of our service and the execution of our justice, that any persons of those who now are or shall be in the said land and provinces should depart from, not enter again into or remain in them, and shall present themselves before me, you are empowered on our part to cause them to leave according to the law bearing

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on this, acquainting the person whom you may thus banish with the reason for which you banish him, and should you consider that it is advisable that it be given secretly, you shall give it closed and sealed ; and on the other hand you shall send us a third copy in order that we may be informed of it ; but you shall bear in mind that whenever you may have to banish anybody, it must not be done save for very grave cause ; and moreover it is our pleasure that you collect or cause to be collected the fines belonging to our Chamber and Treasury which you, your Mayors and Lieutenants may impose for our said Chamber and Treasury, and to give and deliver the same to our Treasurer of the said land ; for which as it is said, and in order to use and exercise the said post of our Governor and Captain-General of the said lands and provinces, and to fulfil and execute our justice in them, we give you full power by this our letter with all its incidents, dependencies, belongings, annexes and connexes, to have and enjoy each year by reason of the said posts, two thousand ducats as ordinary salary, and for expenses two thousand more, in all four thousand ducats which are equivalent to one " quento " and five hundred thousand " maravedis " a year, to be counted from the day you sail on your voyage from the port of San Lucar de Barraneda and during all the time in which you may hold the said post ; which same we command our officials in the said land to give you from the revenues and profits we may there receive from any source during the time you may hold the said Gobernacion, and should there be none at the time we shall not be liable, but they shall accept your letter of payment, which and with the copy of this our decree, signed by Public Notary, we command be accepted and taken into account, this letter being inscribed by our officials residing in the City of Seville, in the " Casa de Contratacion " of the Indies, and neither you nor they shall infringe the same under pain of our displeasure and a fine of ten thousand maravedis payable to our Chamber.

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Given in the City of Valladolid, on the eighth day of December of the year one thousand five hundred and thirty-six.

I, THE QUEEN.

Countersigned by Samano and signed by the Cardinal and Beltran and Bernal and Velasquez.

No. 2.

APPOINTMENT OF PEDRO DE VALDIVIA as Governor of Chile.

[Translation of a document existing in the General Archives of Indies, Seville, a certified copy of which is kept at the Chilean Legation in London.]

(Quoted on pp. 27 and 28 of the Statement.)

Among the documents entitled "Audiencia de Chile-Papeles por agregar," the following appointment is to be found, which reads thus :

" This is a good and faithfully made copy of a title and decree which the most illustrious Licenciado, Pedro de la Gasca, of His Majesty's Council of the Holy and General Inquisition and his President in the Kingdoms and Provinces of Peru, gave to Captain Pedro de Valdivia, by which he creates and appoints him Governor and Captain-General of His Majesty in the provinces of Nueva Estremadura, signed by His Excellency and countersigned by Pedro Lopez, the text of which is as follows :

" I, the Licenciado Pedro de la Gasca, of His Majesty's Council of the Holy and General Inquisition, President of these Kingdoms and provinces of Peru, for His Majesty, by virtue of the power which I have from His Majesty to create and give Gobernaciones and order conquests, the text of which *de verbo ad verbum* is as follows : ' Don Carlos, by Divine clemency, Emperor *semper augusto*, King of Germany ; Doña Juana, his mother, and Don Carlos himself, by the same grace, Kings of Castille, of Leon de Aragon, of the two Sicilies, of Jerusalem, of Navarre, of Granada, of Toledo, of Valencia, of Galicia, of Mallorca, of Seville, of Sardinia, of Cordova, of Corsica, of Murcia, of Jaen,

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of the Algarves, of Algeciras, of Gibraltar, of the Canary Islands, of the Indies, islands and mainland of the ocean, Counts of Barcelona, Lords of Biscay and Molina, Dukes of Athens and of Neopatria, Counts of Flanders and of the Tyrol, etc. ; whereas we have sent you, the Licenciado de la Gasca of our Council of the Holy and General Inquisition, to the Provinces of Peru as our President of our Royal Audience, and to arrange matters in those provinces and pacify and tranquilize them, for the service of God our Lord and of ourselves, for which we have given you large and extensive powers, and by reason of your having informed us that you could not create any new Gobernacion or direct any new conquest, and considering that while you may be in the said land it may be profitable to our service and to the benefit, tranquility and pacification of it to create some Gobernaciones for new discoveries and settlements whereby our Lord would be served, His Catholic faith amplified, and in view of the great confidence which we have in your person and prudence, we have agreed that this be sent you in order that you, as a person having the matter under your notice and who sees what it may be advisable to do, as much for the service of God our Lord as for ours, as well as for the good of the land, and that you may direct for that end whatever you may consider proper, therefore, by these presents, we give you power and authority in order that, should you see that it is advisable to the service of God our Lord, of ourselves and the good of the said provinces, their residents and inhabitants, you may create a Gobernacion or Gobernaciones for new discoveries and settlements in the said Provinces of Peru, you may be able to do it and select the persons you may send to the said discoveries and new settlements. You, with the "oydores" (members) of our Royal Audience shall give the instructions and necessary directions to avoid the damage and disorder already done and effected in the new discoveries, and for the instruction of the natives of the land who may be sent

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to settle them, and for their good treatment and preservation and you shall always be careful to inform yourself how the instructions and directions which may be given are carried out, and know how the said natives are treated. Given in the village of Benelo on the twenty sixth day of the month of February, of the year one thousand five hundred and forty-six. I, the King—I, Francisco de Erasso, Secretary of their Sovereign and Catholic Majesties ordered it to be written by their command. Friar G. Cardinalis Hispalense. The Licenciado Gutierrez. Velasquez—The Licenciado Gregorio Lopez—The Licenciado Salmerón—Dr. Fernan Perez—Registered, Ochoa de Lugando ; by the Chancellor, Martin Serramoya.' "

In view of the fidelity exercised and being exercised in matters of His Majesty's service by you, Captain Pedro de Valdivia, and of what you have constantly done in His Royal service, and the great service which in this war against Gonzalo Pizarro and of his rebellion you have lent, and of what you have done in the discovery of Chile and the information which you have of those regions, by these presents I hereby give and assign as your Gobernacion and empower you to conquer from Copiapó, situated on the 27th degree of latitude from the Equator southwards to the 41st degree on the same side, running from north to south along the meridian, and extending in breadth from the sea inland; that is from west to east 100 leagues; and in the said Gobernacion and stretch of land I nominate and constitute you Governor and Captain General of His Majesty, that you may subdue and bring under allegiance to His Majesty the said land, which you may occupy, endeavouring to implant therein our holy Catholic faith, for what His Majesty principally aims at and desires is that all the natives who are or may be in the said land, may be converted to it, endeavouring first that the aforesaid be done by kindness and gentleness, and that the said natives should admit and consent that the matters of our Christian religion be preached and taught to them, and should the afore-

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said natives not permit this willingly, you may conquer them and force them to do it by war and the severity thereof, exercising this severity just sufficiently to do what has been said, so that you may effect this, avoiding as much as possible death and damage to these natives, and that what you may thus discover, pacify and settle in the said land, you may be able to distribute and allot in grants to yourself and to all those who may help you to discover, conquer and settle it, and to other persons whom you may deem proper, and in the manner and as fittingly as was done and might have been done by virtue of the authority which he had from His Majesty, in the Gobernacion given to the Marquis Don Francisco de Pizarro, who may God have in his glory.

Moreover, in order that you may be able to give in your said Gobernacion ground-plots, grants and farms to the conquerors, and to grant them for their lives in the manner in which it is usually and customarily done.

Moreover, in order that as such Governor you may in person and in the persons of your Lieutenants in the said Gobernacion, exercise and administer justice both in civil and criminal matters with plenary powers and jurisdiction, subject only in matters of appeal and formal protest, to the Royal Council of the Indies of the Royal Audience residing in the City de los Reyes.

Moreover, I hereby give and grant you authority and power in order that in the said Gobernacion and its cities you may appoint in each of the said cities three permanent aldermen who shall be persons of trust and fidelity, and who being thus appointed must request from His Majesty the approval and confirmation of the said appointment within the period of two and a half years, either personally or through their representatives.

Moreover, in order that in the administration of justice there may be no fault owing to the lack of the proper officials, I constitute and create you in the said Gobernacion as Chief Bailiff of the whole Gobernacion "*ad beneplacitum*" and by

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the will of His Majesty, in order that during the said period you may exercise the duties of Chief Bailiff yourself or through those of your Lieutenants whom you may consider fitting for the good administration of justice, dismissing them and appointing them as you may think most advisable for the said good administration, the appointment of the officials for the administration of the Royal Treasury, the notaries, and other officials, remaining subject to appointment by His Majesty ; but whenever any of the positions of officials of the said Royal administration of the Treasury should be vacant, and in order that the same administration may not suffer any damage, you, the said Pedro de Valdivia, are empowered to appoint a person of reliability and trust who may fill the post that may be vacant, until such time as His Majesty may appoint an officer to the said office, and you shall acquaint His Majesty with all despatch of the said vacancy and appointment which you may in the meanwhile make. And likewise whenever the post of Notary should be vacant in some city where there should only be one of those officials, you are empowered to appoint a faithful and loyal person who may fill and administer the said post till such time as His Majesty may provide a Notary.

Moreover, in order to avoid the differences, discussions and disputes arising from the several claims of various Governors to the same cities and parts of Gobernaciones which have arisen or might arise, I say and declare : that if outside the said boundaries of your said Gobernacion you should establish any town or towns of which you shall be Governor and Captain-General in the same manner and with as much right as in your said Gobernacion and within the boundaries of it, until such time as His Majesty commands and declares whether it is His will that the said town or towns which you may thus establish outside the boundaries of your Gobernacion, you the said Pedro de Valdivia may remain as Governor, or any other Governor who may be filling the post in the said town or towns.

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Moreover, if it should happen that whoever may be given or should have been given some other Gobernacion or conquest, should establish some town or towns before you within the boundaries of your said Gobernacion, you are commanded not to occupy on your own authority the said town or towns, leaving the said Governor who may have effected the said settlement free to govern the said town or towns until it be declared by His Majesty or by his Royal Council or Royal Audience of the City de los Reyes, that the said town or towns belong to your Gobernacion, and it is ordered to whomsoever may have effected the said settlement, to hand it over to you freely.

Moreover, that you the said Pedro de Valdivia shall permit the free entrance into the port of Copiapó and any other port of your said Gobernacion, and to remain in them, of the ships, supplies and merchandise and other things necessary for the conquest and supply of any other Gobernaciones which should and ought to make use of the said ports and shall let those articles pass freely through your said Gobernacion to the others in such manner and as should be done in the lands and provinces subject to His Majesty, those which thus pass through the said ports and through your Gobernacion paying for the said supplies and provisions the just and regular prices according to and in the manner, and at the prices which would be paid to those in your Gobernacion, without allowing any vexation, trouble or injury whatsoever to be done to them.

The said Gobernacion and post of Captain-General as is above stated, I give to you, the said Pedro de Valdivia, with a salary of two thousand pesos a year to be paid in three instalments for all the days of your life with power and authority that so long as His Majesty may not provide otherwise, and in order that the administration of justice may not suffer, nor the defence of the said Gobernacion, by your death and by reason of there being nobody to govern and defend it, should God

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remove you before His Majesty has decided who should succeed in the said Gobernacion and administration of justice, you may and shall appoint a person with the qualifications required for the said posts and who in your opinion does possess them, to hold and administer the said post of Governor and Captain-General for His Majesty in the said Gobernacion, until by His Majesty or by his Royal Council or Audience of these Kingdoms, residing in the City de los Reyes, the person or persons to direct and govern the said your Gobernacion be appointed, the person whom you may thus appoint for the administration of the said posts of Governor and Captain-General, having, while, as it is said, His Majesty or his said Council and Audience provide, the administration of the said posts, exercising them as well and in as plenary a manner as though he had been appointed by His Majesty. I give you the said Gobernacion and post of Captain-General in the form and manner herein stated, and I command the City Council, justice and administration of the City of Santiago of Nuevo Estremo as first and principal city founded in the said provinces, assembled in their "cabildo," to acknowledge in you the said posts of Governor and Captain-General, receiving with due formalities the oath which is usually given by the other Governors who have similar posts, and this having been done all the knights, esquires, officials and law-abiding men, those at present residing in the said provinces, likewise those who may go with you, and henceforward may go, shall acknowledge, respect and obey you as such Governor and Captain-General of the said Gobernacion, in the manner above stated, and they shall obey and keep your orders, and they shall acknowledge you in the said posts in all things and cases annexed and appertaining to them, according to the usual custom and as is the case with the other Governors who have been and are appointed by His Majesty, and they shall grant you and see that there are granted to you all the favours, honours, franchises, liberty, privileges, precedents and preferences

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which should be granted you by reason of the said posts, without omitting any of them, under penalty of six thousand gold pesos, half to be payable to the Chamber of His Majesty, and the other half to you, the said Pedro de Valdivia, as well as the other penalties to which those who do not obey the commandments of their King and Lord are liable and which they incur, and by these presents and from now I acknowledge you in the said posts and duties and in each of the same, and I give you full power with its incidencies and dependencies, annexes and connexes, in order that you may be able to use and exercise them in the form and manner herein stated, for which I have ordered these to be drawn, signed by my hand and countersigned by the undersigned Notary at the City of Cuzco, on the eighteenth day of the month of April of the year one thousand five hundred and forty-eight, the Licenciado la Gasca. By command of His Excellency Pedro Lopez. This copy is made from the original in the ship *San Cristobal*, at two leagues from shore, in the District of the Valley of Alaligua, the end of the Valley of Concagua on the twenty-second day of the month of April of the year one thousand five hundred and forty-nine; the witnesses who saw the copy taken and compared with the original, being General Alderete, Captain Diego Garcia de Cáceres and Gabriel de la Cruz; and I, Joan de Cárdenas, Chief Notary of the Court, was present for His Majesty with the said witnesses, and certified to the above as true, and for this reason and being requested, I have affixed my signature in testimony thereof. There is a signature and under "Veritas pucanes."

JOAN DE CÁRDENAS,

With his flourish.

This is in conformity with its original existing in the general archive of the Indies. Seville, August 8, 1876.

THE CHIEF ARCHIVIST,

FRANCISCO DE PAULA JUAREZ.

Seal of the General Archives of the Indies.

No. 3.

ROYAL ORDER OF 1555, extending the Gobernacion of Chile as far as Magellan's Straits.

[Translation of a document existing in the General Archives of Indies, Seville, a certified copy of which is kept at the Chilean Legation in London.]

(Quoted on pp. 37 and 38 of the Statement.)

WHEREAS Pedro de Valdivia, our Governor and Captain-General of Nuevo Extremo and Provinces of Chile, is dead and therefore the said Gobernacion and Captaincy-General is vacant and acknowledging wherein you the Adelantado Don Gerónimo Alderete, Knight of the Order of Santiago, have served us, and considering that it is beneficial to our service and the good government of the said land, to the administration and execution of justice therein, we think right to give you, as long as may be our pleasure and will or until something else be decided by us, the Gobernacion and Captaincy-General of the said Nuevo Extremo and Provinces of Chile in the manner enjoyed by the said Pedro de Valdivia ; therefore, it is our pleasure that now and henceforward and as long as may be our will or until, as before said, something else is decided, you shall be our Governor and Captain-General of the said Nuevo Extremo and Provinces of Chile, and may exercise and administer our civil

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and criminal justice in all the cities, villages and places which are settled or may be settled in the said lands and provinces with the courts of justice existing there and by this our letter we command the councils, judges, aldermen, esquires, knights, officials and law-abiding men of all the cities, villages and sites which exist, may exist or be settled in the said lands, and our officials, captains and registrars and other persons residing in them shall each of them, so soon as they are notified, without adjournment, other notification or consultation, without awaiting or expecting any other letter or second or third notification, shall take and accept from you the said Adelantado Don Gerónimo Alderete and from your Lieutenants whom you may appoint, dismiss or transpose whenever you may wish or deem requisite, the oath and formalities prescribed in this case and which you must fulfil; this having been done they shall recognize, receive and consider you as our Governor and Captain-General and Magistrate of the said lands and provinces, permitting you to use and exercise freely the said faculties and fulfil and execute in them our justice in your own person and the persons of your Lieutenants whom you may nominate and appoint in the said capacity of Governor, Captain-General and High Constable and other posts attached to and concerning the said Gobernacion, whom you may dismiss and remove when and whensoever you may consider it advisable for our service and the execution of our justice to appoint and authorize others in their places to hear, consider and decide all causes and suits, civil as well as criminal which in the said lands, provinces and cities may arise between the people who may go there to settle them, as well as between the natives there existing and those hereafter to be born there, and you, as well as your Mayors and Lieutenants, may exercise the rights attached and belonging to the said post, and you may make any inquiries in cases of strict law and all and other undertakings concerning the said posts, and you and your Lieutenants may take cogni-

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zance of everything conducive to our service and the execution of our justice, settlement and Gobernacion of the said lands, provinces and cities and in order to use and exercise the said offices and in fulfilling and executing our justice, they shall all conform to your wishes, together with the inhabitants and people, and they shall grant you and cause to be granted you whatsoever good will and assistance you may request and require, and in everything they shall respect and obey and fulfil your commands and those of your Lieutenants ; and in all that or any part thereof they shall cause no embarrassment or trouble whatsoever, nor consent that it be caused you, and we, by these presents, acknowledge and admit you to the said posts and to the use and enjoyment thereof, and we give you power and authority to use, exercise, accomplish and execute our justice in the said lands and provinces, and in the cities, villages and sites of them and their territory in your name and in that of your said Lieutenants as has been said. In case you are not received by them or any of them, by this our letter, we command Francisco de Villagra and every other person or persons whatsoever possessing or who may possess the representation of our justice in the towns of the said lands and provinces, that as soon as they shall be notified by you, the said Adelantado Don Gerónimo Alderete, they shall relinquish their rights and not use them without our consent and special commands, subject to the penalty incurred by private persons who exercise public and royal authorities for which they have no power and faculty, and by these presents we suspend them and declare them suspended in the exercise of their duties.

Moreover, respecting the fines belonging to our Chamber and Treasury which you and your Mayors and Lieutenants may impose, I command you to collect them and see that they are collected, and to give and deliver them to our Treasurer of the said land, and moreover, it is our wish that should you, the said Adelantado Don Gerónimo Alderete, consider it in

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the interest of our service and the execution of our justice, that any persons of those who now are or shall be in the said lands and provinces, should depart from, not enter again into or remain in them, and shall present themselves before me, you are empowered on our part to cause them to leave according to the law bearing on this, acquainting the person whom you may thus banish with the reason for which you banish him, and should you consider that it is advisable that it be given secretly, you shall give it closed and sealed ; and on the other hand you shall send us a third copy in order that we may be informed of it ; but you shall bear in mind that whenever you may have to banish anybody, it must not be done save for very grave cause ; and moreover it is our pleasure that you collect or cause to be collected the fines belonging to our Chamber and Treasury which you, your Mayors and Lieutenants may impose for our said Chamber and Treasury, and give and deliver the same to our Treasurer of the said land ; and we hereby are pleased to extend and amplify the said Gobernacion de Chile as held by the said Pedro de Valdivia for another one hundred and seventy leagues more or less, which run from the confines of the Gobernacion held by the said Pedro de Valdivia as far as the Straits of Magellan, provided it does not prejudice the boundaries of any other Gobernacion, in order that you, the Adelantado Don Gerónimo de Alderete, and the people and priests accompanying you, may settle the said land and live on it and make engagements in it, persuading the natives, without the use of pressure or force, to adopt our faith and Christian religion, submitting in spiritual matters to the Roman Church and in temporal matters to our Royal power and domination by the means and ways which by right we possess, keeping the inhabitants of the said lands and provinces in the possession and enjoyment of all their property, rights and actions which may justly belong or should belong to them, without exercising any oppression or doing any damage, .

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as has been said, and in order that you may perform the duties of our Governor and Captain-General in the said lands and Provinces of Chile held in government by the said Pedro de Valdivia which we now give you to govern as far as the Straits of Magellan and by this our letter we confer upon you power to exercise and administer our justice with all its incidents, dependencies, belongings, annexes and connexes, to have and enjoy each year by reason of the said posts a sum of "maravedis" equal to that which the said Pedro de Valdivia enjoyed and which you shall receive during the whole time you may hold the said posts; which same we command our officials in the said land to give you from the revenues and profits we may there receive from any source during the time you may hold the said Gobernacion, and should there be none at the time we shall not be liable, but they shall accept your letter of payment which, and with a copy of this our decree, signed by Public Notary, we command be accepted and taken into account, and neither you nor they shall infringe the same under pain of our displeasure and a fine of fifty thousand maravedis, payable to our Chamber.

Given in the City of Valladolid on the twenty-ninth day of the month of May, of the year one thousand five hundred and fifty-five.

THE PRINCESS.

Countersigned by Ledesma and signed by the Marquis Briviesca-Sarmiento-Vasquez, Villa Gomez.

This is a faithful copy of the original existing in this General Archive of the Indies under my charge Seville, April 26, 1876.

THE ARCHIVIST IN CHIEF,

FRANCISCO DE PAULA JUAREZ.

There is a seal from the General Archive of the Indies.

No. 4.

THE SPANISH PILOT JUAN LADRILERRO takes possession of the Straits of Magellan to its entrance from the North Sea.

[Translation of extracts from a document existing in the General Archives of Indies, Seville, a certified copy of which is kept at the Chilean Legation in London.]

(Quoted on p. 49 of the Statement.)

I REACHED this entrance of the Straits on the North Sea on the eighth of August of the year 1558.

The winds which I found there were very strong west and west-north-west, and west-south-west and south-west, and it was very cold although there was not much snow by reason of this land being low and level and the winds very strong; the tides are as in Spain, neither more nor less, of six hours' high tide and six low tide.

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* * * * *

From the entrance of the Straits from the North Sea and up to fifteen leagues inside the Straits, the land is flat and barren and in some parts lower than in others, and there are few hills; and beyond the fifteen leagues, inside the channel, the coast of the Straits is flat country and mountains rise inland.

* * * * *

The shores of the Straits are sandy, and the bottom of the channel is clear and in some parts near the entrance to the Ocean there are both small and large movable shoals. On the coast there are few ports before reaching the Cordillera; and it

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would be advisable to sail along the northern coast, that is to say along the mainland, for in this manner protection will be obtained from the winds which are the strongest, such as the north-western, west and south-western the most frequent and prevailing in that land, whilst those blowing from the south, south-east and east are mild, and in this manner sailing will be effected with less difficulty and danger. Sailing forty-three leagues inside the Straits the Cordillera is reached and the narrows begin ; thence the Straits turn north-west, a quarter west, and the channel is four leagues in width where the Campana de Roldan may be seen, which is situated to the south-east in the turn of the channel where there is a bay ; and it has nearly the same width until reaching the islands to be found at forty leagues from the South Sea and at seven leagues distance and beyond the islands the channel is one league in breadth and a little distance beyond the last island, situated in the centre of the channel and which seems to obstruct it, it has a width of half a league. This is the narrowest part, for from there on the channel widens, although not so much as where it nears the Cordillera.

The Cordillera begins at the point where the Straits turn, that is to say at a distance of forty-three leagues from the North Sea and fifty-seven from the South Sea ; and here, having entered the Cordillera, it would be advisable that anchorage should be effected on the south-western side in order to be protected against the south-western, western and north-western winds, which are the strongest, and in this manner navigators will sail with the help of God without any risk, whilst by doing otherwise, they will sail over places with side winds, and seven leagues beyond the islands which as I have said are situated in the Straits and forty leagues from the South Sea the Ocean will be seen at thirty-five leagues, because the channel of the Straits runs in a very straight line to the north-west, a quarter to west.

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In all this distance from the North Sea as far as the Cordillera, some forty-three leagues inside the Straits, there are no mussels, limpets, eatable sea-weeds, nor can any fish be obtained in the winter. There are sheep, guanacos and deer, but when the cold commences in the winter they retire into the mountains where they stay until the summer when, owing to the heat, they descend to the flat land on the coast.

In all the other channels over which we sailed we found abundant shell-fish and sea-weeds, save in these Straits, Todos los Santos channel, in the north channel and from the Cordillera as far as the North Sea by reason of there being sandy beaches on the coast as I have said.

On Tuesday the ninth of the said month of August of the year 1558, after having taken possession in the name of His Majesty and of the Viceroy Don Andres Hurtado de Mendoza, Guarda Mayor of the City of Cuenca, Governor and Captain-General of the Kingdoms of Peru, and of his most beloved son Don Garcia Hurtado de Mendoza, Governor and Captain-General of the Provinces of Chile in the name of His Majesty, we turned back to give an account of what we had accomplished with the aid of God and His blessed Mother ; and in order that more knowledge should be possessed of those Straits for the benefit of those travelling through them and that His Majesty, His Excellency and the Governor in His Royal name might be served, and although in my account I may be prolix, I am guided by the desire of better serving God, His Majesty, His Excellency, the Governor, and in order that the navigators may possess more information to be guided by and, therefore, I shall again give an account of the Straits from the entrance on the North Sea, as well as of its sounds and channels which in the said Straits are disposed in the following manner :

The entrance to the Straits on the North Sea is situated on the $52\frac{1}{2}^{\circ}$; it is two and a half leagues in width and the Cape on its south-eastern side is a cliff perpendicular to the sea ; it

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is barren and flat land and from the said Cape the land dips towards the south and within the Straits ; all this land is barren and has no trees.

The Cape on its north-western side is a barren and not very high land ; it forms a bay on the side of the ocean nearing the entrance of the Straits and inland at a distance of three leagues it slopes down : close to this very Cape there opens a bay which may have five leagues from one point to the other, and one of these points is called de la Posesión. It starts from the Cape and stretches to the north-west for ten leagues inland. The country is barren and treeless.

No. 5.

GRANT OF LAND

from the watershed of the Cordillera in the Provinces of Cuyo.

[Translation of extracts from a document existing in the General Archives of Indies, Seville, a certified copy of which is kept at the Chilean Legation in London.]

(Mentioned on p. 53 of the Statement.)

JUAN JUFRE, Lieutenant of the Governor and Captain-General in these Provinces of Cuyo and lands from the watershed (*vertientes*) of the great snowy Cordillera to the North Sea, in the name of the very illustrious Señor Don Francisco de Villagra, Marshal, Governor and Captain-General of the Provinces of Chile and Nueva Extramadura, Diaguitas, and Juries and of these of Cuyo and Caria down to the Straits of Magellan and North Sea, for His Majesty, etc.

Whereas I gave and allotted to you, Diego de Velasco, certain Indians and caciques in order that you might employ them in conformity with the Royal ordinances, and taking into consideration the great work you have done in this Gobernacion and that you have served His Majesty for twenty years, and having seen that with the said Indians you cannot support yourself, therefore in the name of His Majesty and by virtue of the Royal powers which the said Governor holds from His Majesty, which he ceded and gave over to me for all matters concerning the justice and good government of these provinces and concerning the allotment of Indians in them, I add, give

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and allot to you, Diego de Velasco, the cacique called Riamio whose land and seat is called Togo, situated by the lakes, with all its subject Indians and other chiefs of his district that you may employ them in conformity with the Royal ordinances and commands, provided you obtain the confirmation of this grant from the Governor within the first six months from this date, and I hereby command all and any judges of His Majesty and of the City of Resurrección to place you in possession of the said Indians that you may employ them as has been said, under penalty of one thousand gold pesos fine to be applied to His Majesty's Chamber should this not be done. Given at this Valley of Uspallata on the seventh day of September of the year one thousand five hundred and sixty-two.

JUAN JUFRÉ.

By command of the General, Martin Fernandez de los Rios.

It is an exact copy of the original existing in the General Archive of the Indies under my care. Seville, August 27, 1876.

THE ARCHIVIST,

FRANCISCO DE PAULA JUAREZ.

Seal of the General Archive of the Indies.

No. 6.

THE GOBERNACION OF THE CHILEAN PROVINCES OF CHILOÉ AND TRAPANANDA, Extended as far as the Straits of Magellan in 1563.

[Translation of a document existing in the General Archives of Indies, Seville, a certified copy of which is kept in the Chilean Legation in London.]

(Mentioned on p. 54 of the Statement.)

"HE [the petitioner] requests that he be confirmed in the title of Chief Constable of the Provinces of Chile and that he be given the three thousand Indians lacking in his '*encomienda*' or that he be given the grant which became vacant on the death of Francisco de Villagra and held by his wife from his death, or the Gobernacion of which he discovered the part from the City of Osorno to the Straits of Magellan.

MOST MIGHTY SIRE—

I, Sebastian de Santander in the name of Arias Pardo de Maldonado, residing in the Provinces of Chile, declare that the said Arias Pardo de Maldonado went to the Provinces and Kingdoms of Peru over fourteen years ago, and in that time he served your Highness very well in the said Kingdoms, and especially during the disturbances caused by Francisco Hernandez Giron and others, in which he was of the greatest service, and, therefore, merited a favour. The said Arias Pardo, always with the intention and will to serve your Highness, went to the said Provinces of Chile in company with Don Garcia de Mendoza, who was Governor of the said Provinces of Chile, because he learned and believed that in the said provinces there

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was a regular war with the natives, in which he served much, and he afterwards served as well during the time when Don Francisco de Villagra, deceased, and father-in-law of the said Arias Pardo de Maldonado, was Governor of the said provinces, and the said Francisco de Villagra appointed him his ensign and Captain of the said provinces, and with the assent and permission of the said Francisco de Villagra, his son Pedro de Villagra, today deceased, and the said Arias Pardo went forth to conquer the Provinces of Chilue and Trapananda which are near the Straits of Magellan, and the said conquest was carried out and possession was taken of the said provinces in the name of your Highness, and they returned from the said conquest so ill that the said Pedro de Villagra died soon afterwards, fighting in the City of Concepción, and at this same time the said Arias Pardo married Doña Ana de Saria, a daughter of the said Francisco de Villagra, and it was the said Arias who gave the order and directed the manner in which the said City of Concepción was to be built and settled, and he received many wounds in the conquest of the said provinces of which he almost died, and the said Francisco de Villagra, as a sort of payment and remuneration for the services rendered by the said Arias Pardo in the said provinces, gave him the grant of Cuyoco called Coliturco, which yields very little rent, and after this the said Francisco de Villagra died, after having served His Highness much in the said provinces, as is well known and as your Council of the Indies is well aware, and he left no other son or daughter than the said Doña Ana and the said Arias Pardo, being very ill owing to wounds he had received during the conquest of the fort near the said City of Concepción. Don Francisco de Villagra at the time of his death did not appoint him in his place as Governor of the said provinces, and appointed Pedro de Villagra, who, after Arias Pardo had recovered his health, appointed him his Chief Constable of the said Gobernacion and gave him the title thereof and a certain commission to go to

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the Ciudad de los Reyes to bring soldiers and arms to the said Province of Chile for the war against the natives, which Arias Pardo did at his own expense, and to this end he sold the estate he had in Spain, and finally since he arrived in the said provinces and kingdoms he has always tried to serve and has served your Highness, and he has not been rewarded nor has he received any favour, as appears from these testimonies and information which I hereby present.

I therefore request and beg of your Highness that, taking into consideration the remarkable services rendered your Highness by the said Arias Pardo in the said provinces and kingdoms and of the many services performed by him, together with the said Francisco de Villagra and Pedro de Villagra, his father-in-law and brother-in-law, and that until the present time he has not been favoured as his services deserve, your Highness may dictate and command that the commission of Chief Constable of the said provinces be confirmed to him, and that the proper title of said Chief Constable be issued in his favour, and that the three thousand lacking Indians be given him as well as those who are in the grant which Arias has and possesses in the manner enjoyed by many other persons in the said provinces, and in case it should not be possible to give him the said Indians, that the grant which became vacant on the death of the said Francisco de Villagra be given him which is at present held and possessed by his wife, from the time of his death, and the Gobernacion of the said Provinces of Chilue and Trapananda which were discovered by the said Arias Pardo and the said Francisco de Villagra and Pedro de Villagra, *which are depopulated from the town of Osorno as far as the Straits of Magellan, and have a breadth of one hundred and fifty leagues from west to east*, and the title of Marshal enjoyed by the said Pedro de Villagra, and for this purpose, etc.

Quoted p. 54

THE LICENCIADO CRISTOBAL DE OVALL,
SEBASTIAN DE SANTANDER.

No. 7.

THE MARQUIS DE NAVAMORQUENDE, as Governor of Chile, appoints a Lieutenant for the Province of Chile (1668).

[Translation from Amunátegui's "*La cuestión de límites entre Chile i la República Argentina*," vol. iii. pp. 61-65.]

(Mentioned on p. 75 of the Statement.)

DON Diego Dávila Coello i Pacheco, Marquis of Navamorquende, Lord of the County of Montalbo, Lieutenant of the Captain-General of the Kingdom of Peru, and General of the sea and of the land of the garrison and port of Callao, Member of the Council of His Majesty, *Governor and Captain-General of this Kingdom of Chile and President of its Royal Audience, etc.*

Whereas it is fitting in the interest of His Majesty, the welfare and preservation of the inhabitants and settlers of the Province of Cuyo, its territory and its jurisdiction, to appoint a competent person, of all worth and trust, of character, capacity and suitability, who may fill the post of Magistrate and Chief Justice of the said province, and who may administer and reside in it in place of the General Antonio de Camasa ; and believing that the qualifications referred to are embodied in the Maestre de Campo Don Pedro de Morales Negrete, whom I have appointed as my Lieutenant Captain-General of the said province, and who I trust will conduct himself in this post with the zeal which he has shown in the service during the time which he has served His Majesty, and in the posts he has filled, which I am informed he has discharged to the satis-

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faction of the Governors, my predecessors, and as appears in greater detail from their papers to which I refer, in view of this and provided that in the first place and above all things, he presents himself with this title to the Judge Commissioner of Taxes in order that should anything be owing by reason of this favour he should pay it to the Royal treasury of the City of Santiago, as will be stipulated further on by these presents, and in the name of His Majesty and as his Governor and Captain-General, I appoint you, the said Maestre de Campo Don Pedro de Morales Negrete, Magistrate and Chief Justice of the said Province of Cuyo, its territory and jurisdiction ; and I hereby give you power and authority in order that you may administer Royal justice for the period of a year, more or less, according to my will, and that you may take cognizance of the suits and cases, either civil or criminal, still pending before your predecessor, as well as of those that may later on arise and require a decision, observing the formalities of law and deciding them in conformity with the Royal ordinances. And as to the decisions you may render, you will grant appeal in conformity to law in the cases which you may consider necessary to the proper administration of Royal justice, doing this in such a manner that the inhabitants, settlers, and other persons may live in peace and concord, avoiding all excesses and public offences against the commandments of God our Lord, defending in all cases the Royal jurisdiction, seeing that the inhabitants, settlers, and other persons treat the Indians well, helping these and defending them, and endeavouring to instruct them in matters concerning our holy Catholic Faith, natural law and Christian policy, respecting and observing the dispositions and commandments of our laws, ordinances, decrees and Royal Orders, and especially those issued by the Magistrates as well as those hereinafter made, seeing that they be duly executed, protecting and defending widows and the poor, whom I entrust to you in the name of His Majesty and of myself ; and in all

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this you shall fill the post of such Magistrate and Chief Justice according to and in the manner heretofore practised, or the manner that should and ought to have been practised by your predecessors, for all of which I hereby give you power and authority as may be required. *And it having been certified, first and before all things, by the Royal Judges of the City of Santiago, that payment has been made in respect of whatsoever may be due as contribution by reason of this favour, I hereby ordain and command the City Council, judiciary and administration of the said province, that, this being done, they may recognize your right to enter upon the duties of the said post immediately and without any delay, for such is my wish ; and this shall be done once they have received your oath, observed the formalities, and received the security which you must give ;* and I command that all the honours, graces, favours, franchises, liberties, prerogatives and immunities, which you are entitled to enjoy may be granted you by reason of the said post, without omitting any single one of them. *And I hereby ordain and command the inhabitants and settlers and other persons of the said province, its territory and jurisdiction, to recognize you, and no other person, as filling the post, and to approach you, acknowledging in you all the rights which belong to you, which you must exercise as it was exercised and enjoyed by your predecessor, and in the same site and place during all the time which you may fulfil the said post ; and that they shall all obey you as such Magistrate and Chief Justice, and that they shall assist at your convocations, and that they shall give you the help and assistance necessary ;* and you shall punish with all severity those who may disobey you, and the aforesaid shall observe and abide by the dispositions of this document under penalty of 500 gold pesos, to be applied in equal parts to the Chamber of His Majesty and the expenses of the war ; for which purpose I have commanded that these presents be sent you, signed by me and countersigned by the Notary of the City

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Council of this City of Concepción, where it is given on the 20th of December of the year 1668. The Marquis of Navamorquende. By command of His Excellency, Alonso de Robles, Notary Public, and of the City Council. Let this title be registered on page 121 in the book of Decrees of this Royal Treasury under my charge ; and in order that this may serve as a proof, I have signed it in Santiago de Chile on February 4, 1669.

DON JERÓNIMO HURTADO DE MENDOZA."

" Don Diego Dávila Coello i Pacheco, Marquis of Navamorquende, Lord of the County of Montalbo, Lieutenant Captain-General of the seas and of the land of the garrison and port of Callao, Member of the Council of His Majesty, *Governor and Captain-General of this Kingdom of Chile, and President of its Royal Audience, etc.*

" Whereas it is fitting in the interest of His Majesty to appoint a person of courage, decision, worth and trust, character and capacity, of experience in warlike affairs, who may fill the post of my Lieutenant Captain-General of the Province of Cuyo, its territory and jurisdiction ; and whereas these and other necessary qualifications are advantageously embodied in the Maestre de Campo Don Pedro de Morales Negrete whom I have appointed Magistrate and Chief Justice of the said province, and who I trust will continue to show in such post the zeal he has shown in the service of His Majesty during the time he has served and in the posts he has filled, which I am informed he has discharged to the satisfaction of the Governors, my predecessors, as appears in greater detail from their papers to which I refer. And in view of this, and provided that in the first place and above all things he presents himself with this title to the Judge Commissioner of Taxes in order that should anything be owing by reason of this favour he should pay it to the Royal treasury of the City of Santiago, as will be stipulated further on by these presents, and in the

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name of His Majesty and as his Governor and Captain-General, I select and appoint you, the said Maestro de Campo Don Pedro de Morales Negrete, my Lieutenant Captain-General of the Province of Cuyo, its territory and jurisdiction; and of the soldiers found there, and of the people who may go into or out of it, and of the levies who may be enlisted, as well as of all the rest of the battalion at present there and who may later on for any reason be there. And I hereby give you power and authority in order that with such rank of my Lieutenant Captain-General you may perform the duties of that post, on all occasions of war, expeditions, encounters, and other matters and cases that may arise and be necessary for the defence of the said province and other parts of this Kingdom, directing and commanding within its territory whatever you may think requisite for the service of His Majesty so long as may be my will, and I hereby give you power and authority for all the same. And whereas His Majesty, whom may God preserve, has commanded by his Royal Orders that neither his Royal Audiences nor any other of his ordinary tribunals may take cognizance of the suits concerning the soldiery, you only shall take cognizance of all that may arise, whether civil or criminal, among the military, whether *ex officio* or at the request of the parties, or among deserters of the army, and not in the case of any other person, and you shall proceed briefly and summarily in conformity with the usages of war; and once the suits are tried you shall pass sentence in accordance with law, imposing upon the transgressors the penalties they may deserve and to which they may have been condemned by your judgment and decision, in spite of whatever appeal they may file, whenever the case should be grave and demand a summary and exemplary punishment. And should there be ground for an appeal, you shall allow it to be made within a brief time before me, and before no other tribunal whatever, the Royal Audience being forbidden to hear military suits. And in all things I grant you

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all the honours, graces, favours, franchises, liberties, prerogatives, and immunities you should have and enjoy and which should be awarded you by reason of your post, without omitting any of them whatever, as well as the rest which have been granted to my other Lieutenant Captain-Generals of the countries and armies of His Majesty. *And, it having been certified, first and before all things, by the Royal Judges of the City of Santiago, that payment has been made in respect of whatsoever may be due as contribution by reason of this favour, I hereby ordain and command the City Council, judiciary and administration of the said province, that, this being done, they may instal you in the said post and duties, recognizing you and no other person whatsoever. And they and other superior and ordinary judges, knights, proprietors and 'encomenderos,' esquires, officials and law-abiding men, residents and inhabitants, and all other persons whatsoever, and military subordinates shall obey, respect and revere you, shall observe and execute the orders you may give them in the service of His Majesty; and they shall assist at your summonses, parades, musters, roll-calls, meetings, and any other assemblies to which you may order by the proclamations you may issue, with their arms and horses, which you shall see they have for the cases and occasions that may arise in the service of His Majesty, and you will call them in order to discipline and instruct them in military affairs and cavalry exercises, in which you will perfect them, acting in all this as I expect of you. And you will have recourse to the remedy and reparation of His Majesty's arms in defence of the said province and cities of it, as one having the matter in charge; and to this end in such cases you will give the necessary orders respecting the service of His Majesty; for all which and for its execution I have ordered these presents to be made out, signed by my hand, sealed with the seal of my arms, and countersigned by the undersigned Notary of the City Council of the City of Concepción, where it is given on*

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this twentieth day of December, 1668. The Marquis of Navamorquende. By order of His Excellency, Alonso de Robles, Public Notary and of the City Council. Let a memorandum of this title be recorded in a book of decrees on page 22 of this Royal Treasury under my charge ; and in order that this may serve as a proof, I have signed it in Santiago de Chile, on February 4, 1669.

DON JERONIMO HURTADO DE MENDOZA.

No. 8.

ROYAL ORDER OF CHARLES II. OF MAY 21, 1684.

[Translated from Amunátegui's "*La cuestion de límites entre Chile i la República Arjentina*," vol. iii. pp. 364-366.]

(Quoted on p. 78 of the Statement.)

[THE KING.]

MY Governor and Captain-General of the Provinces of Rio de la Plata :

Through Diego Altamirano, of the Society of Jesus, and Procurator of those provinces, and of those of Paraguay and Tucuman, I have been informed that from that City of Buenos Aires and coasts of Rio de la Plata southwards *to the Straits of Magellan* there are some hundreds of leagues populated by pagan races, some being avowed enemies of the Spaniards, on account of operations at several times carried on, and others not bearing allegiance to me, since they have had none to instruct them in the Catholic Faith, in spite of the fact that about the year 1673 Nicolás Mascardi, of the same Society, travelling over the mountains of Chile and the coast of the South Sea in order to convert the many infidels inhabiting them, went round the Snowy Cordillera, which divides that Kingdom from these provinces and that of Tucuman, and on the plains which stretch toward the said river, he found nations who eagerly demanded the baptism, which would have been administered them, had not the Poyas, another more barbarous nation, put them to a violent death before they had been catechised ; and

Quoted p. 78

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there were other nations still more inclined to be brought to the faith, for, years ago, certain Spaniards dwelt among them who, having been made prisoners by the Araucanians in the wars of Chile after passing from one nation to the other, had reached that city. And so strong is my wish to propagate the holy faith that this now seems the most necessary enterprise, not only in order that so many souls may know their Creator, but that the Portuguese, seeing all the ample coast of the North Sea unprotected, may not continue to extend their settlements towards San Gabriel, from Rio de la Plata, towards the Straits of Magellan, as has been attempted by other foreigners, and it was even believed they had established a city, whence in time the dangers before our eyes might extend to Peru ; and especially if they were to occupy the mines found in those regions, whence the heathens took stones full of very pure silver; which had been seen in that city ; and if the nations to be found between were to be subdued, it would afterwards be easy for Spaniards to go there to work them and prevent foreigners from setting foot. And in view of these drawbacks, and considering that his (Father Altamirano's) object was to effect the salvation of all the tribes, he offered in the name of his Province of Paraguay to undertake this mission were he given an escort of some fifty soldiers, or of whatever number might seem requisite to defend those missionaries from the most fierce heathens, who were those nearest that city, whence they could easily return to it, without adding any burden to my treasury, and he added other considerations which he thought proper.

Quoted p. 78.

“ And the members of my Council of the Indies having seen what Don José de Herrera y Sotomayor wrote when filling that post, in letters of December 25, 1682, and March 26, 1683, and the Report requested at this Court from the Maestre de Campo Don Andrés de Robles, together with other papers bearing on the matter, and especially what was said

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and requested by my ' Fiscal ' of the said Council, and having been informed of all this at a meeting on May 12 of this year, I have decided to grant a licence—as by these presents I do—to the religious Society of Jesus, in order that four members, to be selected by them, may undertake a task of so much service to God and alleviation to my conscience, trusting that the said Order will select persons of the virtue, good example, and prudence required in such important matters, and that they will govern it with the tact derived from experience in the other missions under their charge. And in order that these missionaries may act with some security, without their being liable to the injuries and hostilities they sometimes suffer from the heathen Indians, I command and direct you to give to the four members who are to undertake this mission such escort of soldiers as may be spared from that garrison without detriment to the defence of that port and City of Trinidad, leaving this (as I do) to your judgment and to that of the Superior of the Society of Jesus in those provinces in order that, with his co-operation, you may decide what you may consider proper. And it is my will that the soldiers selected to go with the missionaries should be under the orders of the latter and do whatever these may decide in order that success may be attained ; *and it is my will that the settlements of subdued Indians which may be founded should be made in the more central part and in the interior of the said regions, avoiding the foundation of settlements on the coast, save at a distance inland of at least thirty leagues, for it is advisable that the said coast should remain uninhabited*, so that foreign enemies may never find shelter therein, since it is not possible to fortify it with Royal armaments. And in order to induce the Indians to submit without fear of being reduced to servitude or of being allotted, I have also decided that the twenty years' exemption from tribute granted to the Indians of Paraguay be increased by ten more, thus making thirty years in all. You will make this known in such

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parts as may be expedient, as this may greatly facilitate the conversion of these heathens, to which end you will do all that lies in your power.

“ Given at Madrid on the twenty-first day of May, 1684,

“ I, THE KING.”

No. 9.

LETTER FROM FATHER MASCARDI TO THE GOVERNOR OF CHILE, DON JUAN HENRIQUEZ.

[Translated from Amunátegui's "*La cuestión de límites entre Chile i la República Argentina*," vol. iii. pp. 97-99.]

(Mentioned on p. 81 of the Statement.)

"MR. PRESIDENT :

"With the great liberality and favours from Your Excellency, and the orders given with the last remittance to the Lieutenant and Governor of Chiloé, I have had some relief this year. Of the three sums which Your Excellency graciously granted me to entertain these Indians, your Excellency promptly sent me one-half and promised to send me the remainder. In the letter which I wrote last year to Your Excellency I gave you an account of the voyage I made towards the Chonos, of the great attention paid me by the Poyas and barbarians inhabiting along this road, and of the good will with which they received the Christian faith and teaching ; as well as of the many conflagrations near various lakes of this Cordillera, caused, as I personally saw two years ago, by the Spaniards of the south, who, in my opinion, were only seeking a road by this Cordillera in order to join the Spaniards of Valdivia or Chiloé ; but they were stopped by the last lake, which is situated thirty leagues distant from this of Naguelguapi, and they retreated from that spot, frightened at the sight of the many fires made daily by the Poyas, who from day to day move about with their families in pursuit of game. Lack of food forced me to retire, after entrusting the letters for the said Spaniards to a very important ' Cacique ' who has

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at several times had communication with them, and he gave me, in pledge and as a sign that they are there, a piece of iron a yard and a half in length and weighing one and a half 'arroba,' and promised me that during the summer he would without fail fulfil my commission. May it please God our Lord that it may be so ! I now start better provided with food and horses, and I carry for that purpose the greater part of what the Lieutenant of Chiloé sent by Your Excellency's order ; and being already familiar with this land, and having to a great extent the good will of these barbarians, I expect to have less trouble on my way out and better results at my return. And may God our Lord and the most Holy Virgin grant that my future letters to Your Excellency may contain good news. The messenger who took my letters to those Spaniards returned at the beginning of winter, saying that the Spaniards who were on the mainland had already crossed to the island ; and although he awaited them for a long time, the boat did not return to the mainland, and he was obliged, therefore, to leave my letters with one of the 'Caciques' in the neighbourhood of that lake. But later on the most important of the Southern Poyas came secretly to tell me that the delay in giving me good news was due to his desire to see me in his lands and of giving it to me openly, because here they were afraid of disagreeing and quarrelling with the Eastern Poyas, who are very much ashamed at not having brought me yet any letters from the City of Arguello de los Césares on the other coast. May God decide everything in the manner most suited to His holy service and for the good of these souls, as well as to the service of His Majesty, who has a great many people lost about these regions, for there are those from *Arguello*, *Sarmiento*, *Iñigo Lopez de Ayala*, and from other ships lost on this coast. And as far as I have been able to gather from their conversations, the delay in giving me news of everything is due to the fact of their being surrounded by Spaniards, who, if they communicate and unite themselves,

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could deprive them of all their lands. After all, God our Lord is above everything, and the gifts will soften the hearts of these barbarians. Not many days ago there came to see me the most important 'Cacique' of the Southern Poyas, who is going to accompany me in this trip, and I told him that if at the end of the summer they had not fulfilled all they had promised me, I should not for very shame return home, but should penetrate into those forests to speak with God alone. The 'Cacique' smiled and said to me, 'We shall all go there, and everything will be arranged.' God our Lord, whose cause I am upholding, will arrange everything, and will preserve Your Excellency, as it is my wish, for the benefit and increase of this Kingdom of Chile and for the discovery of this new Kingdom and settlement of His Majesty.

"Poyas, October 8, 1672. Kissing the hand of Your Excellency, I am your most affectionate chaplain and servant,

"NICOLÁS MASCARDI."

No. 10.

ROYAL ORDER OF NOVEMBER 17, 1713.

[Translated from Amunátegui's "*La cuestion de límites entre Chile i la República Argentina*," vol. iii. pp. 480-481.]

(Mentioned on p. 84 of the Statement.)

[THE KING.]

"MY Governor and Captain-General of the Provinces of Chile, and President of my Royal Audience thereof :

"Father Alonso de Quirós, of the Society of Jesus, Procurator-General of his Society in the Provinces of Peru, has presented a Memorial to my Council of Indies, stating that, having informed me as to the privations undergone and still being suffered by the missionaries of the mission called Nuestra Señora de la Asunción of Puelche and Poya Indians, lately re-established in the Province of Nahuelhuapi of that Kingdom, I ordered, by a communication of February 23, of this year, my Viceroy of Peru to set aside every year an allowance which might be adequate for three father missionaries and an assistant, of whom the said mission was composed, to be forwarded at the same time with the remittance which was to be sent annually to the city and garrison of Valdivia, and separately, in order that its amount might not be spent for other purposes nor prevented from being delivered to the said missionaries, in this way avoiding the lack of assistance which until then had occurred. He also requests me now anew that, in order to avoid such privations in the future, I may direct that the same action be taken with regard to the allowances given to the other established missions, as also to those which may be established in that said Kingdom under the care of that Society,

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provided such allowances are delivered in Lima to the Procurator-General of the Society of Jesus of that Kingdom residing in that city. Having discussed all this at my Council of the Indies, and in view of what my ' Fiscal ' said about it, and having been consulted upon all referring to it, I have decided to set aside annually in the Treasury of the City of Potosí (in which I have ordered payment to be made of the allowances for the army of that Kingdom) not only the 4,800 dollars which have been assigned as allowances to the missions which were established, but also an amount corresponding to the new and lately established mission, and I have obtained confirmation from the Puelche and Poya Indians in the Province of Nahuelhuapi concerning the missionaries and their number in other missions ; and that the amount of all of them be delivered by my officials from the said Treasury of the City of Potosí promptly every year to whomsoever may be the person empowered by those missions, and with the express stipulation that the said sum be deducted from the whole of the allowance of that army, which I have requested shall be sent to that kingdom after this deduction is made. So that this order be observed I have annulled that given to the Viceroy of Peru by my communication of February 23 of this year, for the sending to that Kingdom of the allowance which might correspond to the said mission of Nahuelhuapi, and have communicated the necessary orders on this date to the said Viceroy of Peru and Royal officials of Potosí for the fulfilment of my resolution, of which I have thought proper to inform you in order that in view of it you may direct that the necessary registration be made in the General Registry of the army of that Kingdom as well as in all the other registries where it may be requisite, for such is my will.

" Given at Madrid on the seventeenth of November, 1713,

" I, THE KING.

" By order of the King, our Lord, BERNARDO TINAJERO DE LA ESCALERA."

No. 11.

THE JURISDICTION OF CHILE OVER THE PATAGONIAN INDIANS EAST OF THE ANDES.

Report of the Maestre de Campo don Jerónimo Pietas to the Governor of Chile.

[Translation of Extracts from a document existing at the Library of the Spanish Royal Academy of History, MSS. Room, Est. 22, Gr. 7A, No. 117, a copy of which is kept at the Chilean Legation in London.]

(Mentioned on p. 88 of the Statement.)

IN order that the confusion and difference of Indians forming this Kingdom of Chile may be understood, and to explain the contents of this first point, I shall first state the differences which exist between the nations, and of each nation separately, its situation and number, customs and equipment.

NATIONS : There are seven nations of Indians, some more barbarous than others, which, starting from these our borders, are situated as follows :—Indians of the Land, the Pehuenches, the Puelches, the Poyas, the Guilipoyas, the Chonos, and the Caucagues.

PUELCHE INDIANS : The Puelche Indians have no fixed abode, for they live in tents, and roam about from one place to another ; they live on game, and when this becomes scarce in one place, they go to another, but they never go far from, or abandon, the districts which belong to them : these districts are situated on the other side of the two Cordilleras where the Pampas of Buenos Aires begin, and each tribe has alliances and relationship with another one of the Pehuenches, and for these reasons the tribes live in close proximity to each other ; and on this account

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all this land is generally called the Pehuenche land, and the tribes are only distinguished by the names of their caciques ; they speak a language very different from that of the Indians of the Land, and have other rites ; the tribes dwelling in the districts opposite the Laxa Volcano, already described, down to the river starting from Naguelguapi and running to the North Sea, are more barbarous and coarse, and are the only ones with which I am acquainted, and the tribes are composed of forty Indians, more or less, whose dwelling begins from opposite the volcano.

POYAS INDIANS : The Poyas Indians have their dwelling opposite the province of Chiloe on the other side of the Cordillera, and possess a strip of the Pampas, and their districts commence from the river which flows from Naguelguape running towards the Straits of Magellan, and the lands possessed by them are a month's journey in length and another month's journey in breadth (as I was told by the cacique who killed Father Nicolás Mascardi, of the Society of Jesus) ; the population is very numerous, for, as I was told by the curate of Chiloe, who was an acolyte of the said Father, in an assembly which they held for the purpose of asking them where the City of los Césares was to be found, 5,000 caciques assembled. They are of a better nature than the other Indians, and are timid, for whenever they see that a firearm is going to be fired they throw themselves on the ground, covering their ears. Their armaments are also arrows and "laquez" ; they make war like the other Indians, and only with their neighbours, because their territory does not border on that of the Spaniards.

THE GUILIPOYAS : The Guilipoya Indians are located from the centre of the Pampas towards the coast on the North Sea, and their districts stretch from the shores of the river which flows from Naguelguapi down to the boundary of the

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lands of the "Caucaquegues," and from the boundary of the lands of the Poyas to the coast of the North Sea, and they also number many thousands, for although no Spaniards have reached those regions, I had in my house an Indian man and woman from them who were sent to me as a present by the Queen Maria of Naguelguapi,¹ saying that they were her slaves; they learned the Spanish language and taught me some of their own, and they gave me some information, which I omit by reason of it not being pertinent to this report.

THE CAUCAHUES or AUCAES: The Caucahue Indians are gigantic, and almost as white as the Spaniards; they are located from the boundary of the Poyas and of the Guilipoyas in all the angle formed by the North Sea and the Straits of Magellan; they are not so numerous as the Poyas; they are stronger and more courageous, and have communication with the Chonos, for as the Cordillera joins the sea from the Archipelago of the Chiloe to the Straits, these Caucahue Indians penetrate it; those nearer it penetrated in order to communicate with the Chonos, and for this reason it has happened sometimes to the people of Chiloe to come across them when going in search of the Chonos, and on one occasion they killed the son of the Sergeant-Major Juan Garcés de Bobadilla.

* * * * *

These are the Indians existing in the jurisdiction of this Kingdom of Chile from River Bio-Bio to the Straits.²

¹ That in Naguelguapi the Indians are in great numbers under one head, and with so much subordination that it can be called a Kingdom, does not seem to me to be true; but this is a question of opinion; maybe the informant had a lesser opinion as to what was called Kingdom. It is true that there many Indians have one "lob" or cacique.

² Library of the Spanish Royal Academy of History, MSS. Room. Est. 22, Gr. 7A, No. 117

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ROYAL ORDER OF DECEMBER 29, 1766.

[Translated from Angelis' "*Memoria histórica sobre los derechos de soberanía y dominio de la Confederación Argentina á la parte austral del continente americano, etc.*" Documentos justificativos, pp. 19, 20.]

(Quoted on pp. 88 and 89 of the Statement.)

"IN view of the reiterated confirmation of the Report which Your Excellency must have received on the arrival at Montevideo of the frigates *Liebre* and *Esmeralda*, regarding the contemplated settlement (already made) by the English on some island of those seas, or in the South Sea, and perhaps off its coast, and in the absence of information regarding its precise position, it becomes daily more urgent to carry out the discovery which has been commanded, and, consequently, to inform the Presidencies with this object that, *as regards* that coast as far as the Straits of Magellan inclusive and continuously down to Cape Horn, it falls under the supervision of Your Excellency, associating yourself with the Governor of Malvinas, Don Felipe Ruiz Puente; Your Excellency should direct in the manner suggested by your judgment that the region between that river and the Straits of Magellan be reconnoitred from coast to coast, with the aid of proper ships, as well as that part of the latter which they may be able to reconnoitre; and that in the remainder, down to Cape Horn, similar explorations should be made. In this connexion Your Excellency will arrange with the said Puente once he has assumed command over the Malvinas Islands, as to the part of which he should take charge, not only regarding the extent of these islands and of others of those seas of which he may have infor-

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mation, but also regarding the coast from the Straits to Cape Horn, although this survey would be more suited to the ship in which, as I have ordered, you must convey the missionaries to Tierra del Fuego, where the Registry of Concepción was lost. And Your Excellency will instruct your captains to admonish the invaders, expressing surprise at their intrusion in the dominions of His Majesty, against the good faith of the treaties and harmony existing between the two countries, and that while protesting against their infraction they should profit by their compulsory stay to obtain information as to the size of the establishment, number of men, and as to the extent of the fortification, returning immediately to inform Your Excellency that you may without delay send a ship to these kingdoms with the news.

Besides these above-mentioned measures, the King wishes Your Excellency to send one of the two sloops, or, should it be more advisable, a frigate, with instructions to make as thorough a survey as is possible with a ship, to the Straits of Magellan, and through it to its entrance on the south, returning by the same route to that port, keeping an exact journal of the navigation and incidents occurring, which, on being handed to Your Excellency you will transmit to me for the information of His Majesty.

May God preserve you many years.

D. JULIAN ARRIGA.

TO SEÑOR DON FRANCISCO BUCARELI.

MADRID, *December* 29, 1766.

I

No. 13.

REPORT upon the Map of South America made by Juan de la Cruz Cano i Olmedilla.

[Translation of extracts from a document existing at the Spanish Central General Archives, a certified copy of which is kept at the Chilean Legation in London.]

(Quoted p. 135 of the Statement ; the Map No. 1 annexed in the map case.)

YOUR EXCELLENCY,—

In compliance with the Royal Order from His Majesty, which Your Excellency was good enough to communicate to me on the twenty-seventh of last month, I called at the Royal Engraving Office, examined the map of all South America constructed by Don Juan de la Cruz, and the plates from which it was printed ; and Your Excellency having requested me to give my opinion as to the errors which the said map might contain, especially as regarding the boundaries of the Portuguese possessions, the corrections which might be made to it, and as to other matters upon which I may consider it advisable to inform Your Excellency, I now proceed to give fulfilment to the said Royal Order. Don Juan de la Cruz, in order to form his General Map, for a long time had at his disposal all the information existing in the various Ministries of State, together with the charts, diaries and descriptions also existing there of the various countries of America. This work, which was printed in 1775, is an honour to the Nation, to the wise Minister who promoted it, and to the author himself, on account of the minuteness of detail, and the completeness with which he

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executed the map. It was very necessary to the service of the King that it should exist, in order that his Ministers, Tribunals, and Superior Chiefs of those dominions should have an idea as to the interior of his vast countries, the boundaries of their various provinces and jurisdictions, civil as well as ecclesiastic ; for it was impossible in many cases to take proper decisions, without the knowledge of the chorography of some Governments, and their relations with the neighbouring ones. At the time the map was published none more accurate could have been made. In works of this kind the most modern one is the best, because each day more information is obtained of lands which have not been previously examined, and astronomical observations are added to well-known places, which amend or ratify their true location on the globe.

Quoted p. 135.

The excusable errors themselves cannot deprive the map of its true merit, and the necessity for its existence for public information is evident, since there is no other at present which is better. But is it to be wondered that a map should contain errors, when it comprises such a large extent of countries discovered three centuries ago, when they are contained in that of Spain, and when it is not long ago that the longitude of the Mediterranean was not known in Europe, and was defective in the maps by very many leagues? The errors of the map itself can in no manner prejudice the interests of Spain nor the legitimate rights it has to the lands which, although not occupied, belong to its monarchy. . . . For these reasons, even if Cruz's map were not already so well known, all the nations possessing copies of it, and in Spain several private persons, it should be given to any one requesting it ; distributing those already printed for the benefit of many vassals whose instruction requires it, or for the better fulfilment of their posts and commissions, and also in order that the cost of its printing may be reimbursed.

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Among the corrections which should be made is the omission of the dotted lines with which Juan de la Cruz marked out, towards the east, the jurisdiction of all the Spanish governments encircling the Portuguese settlements, for in that part of the globe the boundary must be indefinite in order to show the rights of Spain ; the communications of some rivers with others which do not exist, must be erased ; such are those which give the same waters and source to the mighty rivers Yapura, Negro, and Orinoco ; there should be printed less heavily all the central part of America which has been drawn only from reports, which has not been well examined, nor in accordance with astronomical observations, in order to differentiate, as is done by all the geographers, the parts which are known from those which are doubtful, and lastly, there might be designated in each of the eight sheets forming the map, all the defects which can be easily corrected, utilizing the respective plates. I have stated everything I have considered worthy of placing under the superior consideration of Your Excellency, in order that should Your Excellency think fit, Your Excellency may submit it to His Majesty that he may decide whatever may be his royal pleasure. Madrid, ninth of February, of the year One Thousand Eight Hundred and Two.

FRANCISCO REQUENA.

TO HIS EXCELLENCY DON PEDRO CEBALLOS.

(On the margin of the preceding document the following may be read) : " Let these copies be distributed to the Ministries and Council of Indies, selling the remainder in preference to the officials, and the respective commission is hereby given to Requena in order that he may construct the said maps with the corrections corresponding to recent information and observations. Given in accordance with the records on the twenty-third day of February, of the year one thousand eight hundred and two."

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“ The King has commissioned the Councillor of the Indies, Don Francisco Requena, in order that under his supervision the corrections which he may judge necessary be made in the plates which served for the printing of the map of South America by Don Juan de la Cruz, of which I inform you for your guidance, and when this work is finished, you will thereupon notify me. I also beg of you to send the copies of the said map which may exist in the Royal Calcography Office. May God preserve you, etc. Aranjuez, twenty-third of February, of the year one thousand eight hundred and two.”

TO SEÑOR DON JUAN FACUNDO CABALLERO.

No. 14.

DIEGO DE ROSALES.

General History of the Kingdom of Chile,

Book II., Chapter 3.

[Translated from copy of Spanish Edition existing at the British Museum.]

(Quoted pp. 153 to 157 of the Statement.)

ON THE GREAT SNOWY CORDILLERA, AND THE DIVERSITY OF ITS CLIMATE.

THE Cordillera of Chile is a wall of superb mountains which enclose it, rising one above the other in such a manner that the first one serves as a ladder or step to the second, until so great a height is attained that they far overtop the clouds, and look out not only on this land, but also that of Tucuman, for there is a hill which, owing to its loftiness and the snows that always crown it, is visible at over fifty leagues distance, and serves as a guide to the travellers by land and to the navigators on the sea, and the Alps, Pyrenees, and Apennines of Italy, and other giants of superb grandeur seem like children, or dwarfs, when compared with them.

This Cordillera, this mass of heaped-up mountains, is forty leagues in its widest part, and as it nears the Antarctic pole it narrows till it sinks and disappears in the sea on the new Strait of Lemaire. It stretches from north to south over all America for over two thousand four hundred leagues from the Strait of St. Vincent to the Valley of Sonora, in the Provinces of Sinaloa belonging to the Viceroyalty of Nueva España on the coast of this Southern Sea, where it has been found that

Quote: 1 p. 154.

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it dips or develops into wide plains. It changes names according to the kingdoms or provinces which it embraces, for in Nueva España it is called Madre Range; in Peru, Pariacaca Range, Punas, or Cordillera de los Andes. This last name is that which is best known and employed by the cosmographers in the maps and geographical tables with which they represent the mountains, not only of the territory of Peru, but also those which surge up in this Kingdom of Chile.

It is not even throughout; in some parts it dips, in others it rises, and in not a few parts it breaks and separates, forming beautiful and charming valleys inhabited by Indians and Spaniards as in Peru and the Province of Quito, in such manner that in those places it seems like two Cordilleras instead of one, and in this Kingdom of Chile, although in many places it stretches continuously, in others it separates and forms two Cordilleras, and in their valleys live the Peguenche Indians, so-called by reason of the many pines growing in the midst of those rocks and their lofty heights which they call in their language "Peguen," and adding the word "che," which means an Indian; the people inhabiting between the two Cordilleras, and who are nourished by the "piñones," of which there is a great abundance, are named Peguenches, that is to say, Indians of the pine forests. Each one of them has a strip of Cordillera marked out, and inherited from his ancestors, and considers as his own the pines of that district wherewith to make the harvest of "piñones," for sustenance during the year, sometimes harvesting, when the year is good, so many of them that they have food for three and four years, which they preserve fresh in wells or silos of water. They resemble the acorn, with a similar shell, although more flexible; they grow in large cones and serve, as I have said, for all purposes.

No other fruit tree is found on these mountains, although there are other trees covered with snow all the year round, which may be seen from many leagues distance, and preserved

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all the year in the very high mountains and volcanoes of Villarica, Osorno, and others. It is not to be found nor does it lie on the rocks, but on the trees, and until I reached the volcano of Villarica and saw the snow on the trees in midsummer, and that it remained there all the year, I had always understood when I looked at it from afar that it lay on the ground, and as it is found in the frigid region the cold air prevails and protects it from the heat of the sun, although this attacks it from nearer.

In some parts the Cordillera is barren and dry, without any vegetation whatsoever, and in other parts very rich in pasturage and forests, without their being rendered unfruitful by the abundance of grass. For the hills and ravines which only have snow during winter are free from it when summer draws near, and are gay with flowers, and grass grows abundantly. We see this especially from the thirty-fifth degree onwards, by reason of their being more humidity and of greater proximity to the coast, although, according to sound philosophy, the cold should make more impression the nearer it gets to the pole, but the many volcanoes which are continually in eruption and breathing fire through the highest summits, warm the air and moderate the rigour of the snows and hardened ice.

In many high hills the snow remains all the year, and in others it melts after half of it has elapsed, and as soon as there is a road it is traversed by very wide gaps. In Villarica all the Cordillera is crossed through a gap of thirty leagues by a road comparatively smooth, and at the end of it a hill of only half a league is climbed, and one finds one's self on the other side in the pampas and plains which stretch towards Buenos Aires, while in crossing from Santiago to Mendoza the road is more difficult, because from the valley of Aconcagua begins the ascent of the Cordilleras and very high mountains; so much so that on reaching the highest point when crossing the Cordillera one finds one's self many leagues above the

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clouds, and the air is so rarefied that breathing becomes difficult and quicker, causing nausea. But one does not suffer the pain and anguish described by Father Joseph de Acosta, when crossing the Pass of Pariacaca, in Peru. Although he was provided with preventives and sufficient clothing, he was so strangely affected that suffering constant vomiting and colic, he not only threw up phlegm and bile, but also blood, so that had it lasted for some time, he thought it would cost him his life, although this intestinal tempest only lasted three or four hours. This happened to him at other times over the various roads of Los Cucanos, Soras Collaguas and Cabañas, and the animals felt the same thing, being so affected that they could not move. He attributes these effects to the air which, owing to the extreme height of the hills, is so rarefied and fine that human breathing is not adjusted to it.

In Chile this Cordillera is loftier than in Peru and Quito, and such painful sensations are not experienced, but only, as has been said, a difficulty in breathing, and nausea, and that for a short time and not in all the roads and passes. The roads of Villarica and of the Chagel at a distance of ten leagues from it, is crossed without any hardships whatsoever, by reason of its all being a gap and at the end of it a slight ascent. By the Uco road which runs by the valley of River Maipu, one suffers slightly, because of the very high hills, and the vapours of the ores of mercury and other metals to be found there.

The road of the Aconcagua is the one most used, but it consists of very high ascents and pathways in which there is hardly room for the horse's hoofs, and any one swerving a little falls down horrible precipices and into rapid rivers with great rocks, and if it be crossed when covered with snow the ascent is more dangerous and difficult, more so than the descent, which many effect by sitting on a skin and letting themselves slide down. The most illustrious Bishop Frai Gaspar de Villarroel went to visit his diocese on the other side of the

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Cordillera, and on his return found it covered with snow, and not being able to descend it on horseback without some risk, descended it tied to a rope and seated on a skin, letting himself slide down from so great a height that when describing the incident in the valuable book entitled *Dos Cuchillos*, he says that he was lowered down the Cordillera with the aid of a rope for some five thousand "estados," which (and more) the slope must measure from the highest point of the Cordillera.

From the boundaries of Peru, the Cordillera is depopulated for over two hundred leagues, until reaching the thirty-eighth degree where the Peguenche Indians have fixed their abode, and over a good many parts they have a passage during the greater portion of the year, as in the territory of the caciques Guembali, Guinulbilu, Cadelmilla, and the warlike Indians who cross it even when there is much snow, wearing certain shoes made of "coleos," and wide-like clogs with which they can walk whenever they like without sinking in the snow. Through other parts, the crossing during winter is very dangerous, for many who have attempted it have been frozen in the snow, and others, who, owing to their good judgment, have escaped being frozen, have lost their fingers and toes without feeling it. Only animals such as "viscachas" and "vicuñas" love the snow and ice, so much so that if they are taken into hot regions they soon die. By command of King Inga Tupac-Yupangui, the tenth King of Peru, a road was made in the midst of these Cordilleras, a thing rare and wonderful, which ran for one thousand two hundred leagues from Quito to the first Province of Chile, respecting which mention is made by Francisco de Herrera, Antonio de Herrera, the Maestre Antonio Calancha and Frai Diego de Córdova. This road was a passage of twenty-five feet wide, made on the sheer rock of the hills, and wherever there were no rocks it was formed of stones and joined or united one with another by cement stronger than mortar. It was levelled, laying low the hills and filling

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the valleys by immense labour and a great number of people. They built at every four leagues superb stone houses and magnificent palaces for the accommodation of the Inga, of his court and armies. They had there stores of arms and supplies, munitions of war and much comfort for the alleviation and recreation of the travellers.

Another road and highway was made by this King Inga over the plain and slope of the Cordillera, also of twenty-five feet in width, and twelve hundred leagues in length, enclosed with walls, and embellished by "mollis," which, besides being very high and tufted trees, were consecrated to their false gods. There were also at short distances houses and inns supplied with everything that was necessary for human life. They took it over many springs, aqueducts and brooks, which were directed and enclosed with wonderful art and skill by means of pipes. These were works that without any contradiction excelled the Pyramids of Egypt, and the arches and highways of the Romans, and the road which was opened on the rocks of the Alps by the celebrated Carthaginian Hannibal.

These roads were preserved by his heir and successor, Guaynacapac, who extended them to more remote provinces, and who repaired what time had destroyed or damaged. They remained until the Spaniards and the Indians themselves, by reason of the wars, destroyed them in many parts wherever it was necessary to prevent the passage of the enemy. The Inga kings did not make these highways merely as a vain show of their power, and for the comfort of themselves and of the travellers on the roads, but much more in order to occupy their vassals, and so that the masses might not in pleasant idleness conceive plans detrimental to obedience, and the public welfare of their monarchy.

Few traces remain in Chile of the highways, but on the road which starts from the valley of the Aconcagua there may

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be seen many houses and walls of trenches or forts made of rough stone, which gave shelter to the runners and captains of the Inga who came to relieve the army operating against the Chilean Indians who never were peaceful for any long period, or surrendered in such a manner that they might be employed in this kind of work. Besides that, the Cordillera is here so rough, broken, and cold, that it would have been very difficult for them to go over it during the winter. The houses that there are on it are many and are not situated over a continuous road, but in several hills and Cordilleras, wherefore many believe that they were made with a view to working the mines there, because in some parts traces may be seen of furnaces, metal washing establishments and stone mortars in which they crushed metals.

It is extraordinary what a variety of climate on the same parallel from the Pole this Cordillera causes, with no other difference in location than the fact of being on the eastern or western side of its mountains, for in all that zone facing westward (which is what is properly called Chile), the sky is clear, pure and unclouded, the air temperate, without the disturbance of whirlwinds, nor the roaring of thunder, bolts and lightnings, for in the part of the Cordillera which looks towards Chile, save by a miracle, no thunderbolt has ever been seen to fall. And exactly the contrary happens in the provinces which are on the other side of the Cordillera, for no sooner have the Cordilleras which look towards Chile been crossed, when, leaving a clear and tranquil sky, one comes upon another dome covered with clouds, in a sad and melancholy sky which looks towards Cuyo and Tucuman, in an atmosphere dank with heavy and pernicious vapours, with perpetual thunder, lightning and bolts, causing horror and fear. Nor should one pass over in silence what happened near the city of Córdoba, of Tucuman, in the year 1622.

One morning the sky being clearer and purer than usual,

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a small cloud was seen, which increased with the heat and became denser, and without spreading too much it condensed and enlarged more and more until a confused murmur began to be heard, which in a short time developed into horrible thunder, after which it cast forth a great ball of fire, making several revolutions in the air, and falling on the earth raised much dust and smoke where it fell, etc.

Father Atanasio Kircher, of the Society of Jesus, a notable mathematician of these times, and renowned master of the Roman College, says that in the mountains of the Cordillera travellers find themselves very frequently surrounded by fire and flaming vapours, that men seem on fire, and the animals belch fire through their mouths and nostrils. He spoke hyperbolically, a thing very dear to poets, in order to signify the fiery spirit of horses, when he said that they belch fire through the mouth and nostrils. I would take this author to be paradoxical (as it is generally said), if he had not been so informed. Maybe it is a poetical licence and a manner of speech, for four times I have crossed the Cordillera and have never seen any horses belch fire, and at times four or five thousand cows will pass, and not a single spark is seen ; they suffer great heat in some parts, but in the high region of the Cordillera they are so far from belching fire from their nostrils and mouths that their breath is thick and is condensed by the cold that exists there, by reason of that part being so near the cold region, although the sun may be hot.

No. 15.

ALONSO DE OVALLE.

An Historical Relation of the Kingdom of Chile,

Book I., Chapter 5.

[Copied from an English Edition existing at the British Museum.]

(Quoted pp. 157 to 159 of the Statement.)

OF THE FAMOUS CORDILLERA OF CHILE.

THE Cordillera, or high mountains of Chile, are a prodigy of nature, and without parallel in the world. It is a chain of high mountains which run from north to south from the Province of Quito, and the new Kingdom of Granada, to Chile, above a thousand Castilian leagues, according to Antonio de Herrera, in this third tome, Decade 5, to which adding the length of the Kingdom of Chile to the streights of Magellan, it will make in all little less than 1,500 leagues. The remotest part of Chile is not above twenty or thirty leagues of the sea. These mountains are forty leagues broad, with many precipices and intermediate valleys, which are habitable till one comes to the tropicks, but not beyond them, because of the perpetual snows with which they are always covered.

Quoted p. 158

Antonio de Herrera, already cited, puts two chains of mountains, one much lower, covered with woods and handsome groves, because the air is more temperate near it; the other much higher, which by reason of the intense cold, had not so much as a bush on it, the mountains being so bare that there is neither plant nor grass on them, but he says that on both these sorts of mountains there are several animals, which,

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because of the singularity of their kinds, I shall here describe some of them.

One of the most remarkable is a species of hogs, that have their navel in the back upon the back-bone ; they go in herds, and each herd has its leader who is known from them all, because when they march none dares go before him ; all the rest follow in great order. No hunter dares fall on these herds till he has killed this captain or leader, for so long as they see him, they will keep together, and show so much courage in their own defence that they appear invincible ; but as soon as they see him killed they are broke, and run for it, giving up the day till they chuse another captain.

Their way of eating is also admirable. They divide themselves into two bodies ; one half of them goes to certain trees which are in a country called Los Quixos, in the Province of Quito, and are like the cinnamon trees ; these they shake to bring down the flowers, which the other half feeds on, and when they have eaten enough they go and relieve the other half of the flock, and make the flowers fall for them, and so return the service to their companions that they have received from them.

There are many sorts of monkeys, who differ mightily in their shapes, colour and bigness, and other properties ; some are merry, some melancholy and sad ; these whistle, the other chatter ; some are nimble, others lazy ; some cowards, others stout and courageous ; but yet when one threatens them, they get away as fast as they can. Their food is fruit and birds' eggs, and any game they can catch in the mountains ; they are very much afraid of water, and if they happen to wet or dirty themselves they grow dejected and sad. There are also a great variety of parrots.

The wild goats are numerous ; they are called Vicunnas, and have so fine hair that it seems as soft as silk to the touch ; this is used to make the fine hats so much valued in Europe. There are likewise a sort of sheep of that country, they call

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Guanacos, which are like camels, but a good deal less, of whose wool they make waistcoats, which are woven in Peru, and are more valued than if they were silk, for their softness and the fineness of their colours.

The same author says, moreover, that through this chain of mountains there went two highways, in which the Ingas showed their great power ; one of them goes by the mountain all paved for nine hundred leagues, from Posto to Chile. It was five and twenty foot broad, and at every four leagues were noble buildings, and to this day there are the places called Tambos, which answer our inns, where every thing necessary is to be found by travellers ; and that which was most admirable at each half league there were couriers and posts, who were designed for the conveniency of passengers, that they might send their letters and advices where they were requisite. The other way, which was also of twenty-five foot broad, went by the plain at the foot of the mountains, with the same proportion and beauty of inns and palaces at every four leagues, which were enclosed with high walls, as also streams and rivulets running through this way, brought thither by art, for the refreshment and recreation of travellers.

This is what Antonio de Herrera and other authors who treat of the Indies do tell us about this famous Cordillera. Now I shall relate what I myself have seen, and do know about it.

And first, I must suppose that though these two highways run separate and distinct through all Peru and Quito, yet they must grow nearer each other as they rise higher in the mountain ; for when they come to Chile, they are no longer two, but one. This is clearly found, by experience, in those who cross the Cordillera to go from Chile to Cuyo, as I have done several times, that I have passed this mountain and never could see this division, but always continual and perpetual mountains, which serve for walls and fortifications on each side, to one

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which rises in the middle infinitely higher than the rest, and is what is most properly called the Cordillera. I am also persuaded that the two ways above-mentioned came but to the boundaries of Chile and ended in those of Peru. I have, indeed, in passing the Cordillera, met with great old walls of stone on the top of it, which they call the Ingas ; which, they say, were encampments (though not his, for he never came to Chile), but of his generals and armies sent to conquer the country ; and 'tis not impossible but the said two ways might be continued on to these buildings, but it was not practicable that it could be with that perfection as in that part of the mountain contained within the tropicks ; where, because the hills are more tractable, such ways might be made as they describe, but not in the mountains of Chile, which are one upon another so thick that it is with great difficulty that a single mule can go in the paths of it ; and the Cordillera grows rougher and rougher the more it draws nearer the Pole, so that it appears to be above the compass of human power to open a way through it, so curious and finely contrived as it is represented. It was not necessary that the Inga should use so much art and industry to make admirable that which is already so much so, as this mountain is in its whole course through the Kingdom of Chile, as it shall be showed when we discourse in particular of its several parts and properties. For first, supposing what we have said of its running fifteen hundred leagues in length, and forty in diameter, its wonderful height makes it astonishing ; its ascent is so prodigious that we employ three or four days in arriving to the top of it, and 'as many more in the descent, that is speaking properly, and only of the mountain, for otherwise it may be affirmed that one begins to mount even from the sea-side, because all the way, which is about forty leagues, is nothing but an extended shelving coast ; for which reason the rivers run with such force that their streams are like mill-streams, especially near their heads.

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When we come to ascend the highest point of the mountain, we feel an air so piercing and subtile that 'tis with much difficulty we can breathe, which obliges us to fetch our breath quick and strong, and to open our mouths wider than ordinary, applying to them likewise our handkerchiefs to condense our breath and break the extream coldness of the air, and so make it more proportionable to the temperament, which the heart requires, not to be suffocated. This I have experienced every time that I have passed this mighty mountain.

Don Antonio de Herrera says, That those who pass it in Peru suffer great reachings and vomitings; because no one thing produces so great an alteration at once as a sudden change of air; and that of the mountain being so unproportioned to common respiration, produces on those who pass over it those admirable and painful effects. He says moreover, that those who have endeavoured to dive into the causes of them, do find, That as that mountain is one of the highest in the world, the air of it is so extream subtile and fine, that it discomposes the temperament of the animal, as has been said. 'Tis true, that in that part of the Cordillera in Peru, which they call Pariacaca, there may be a concurrence of other causes and decomposition of the climate, which may be attributed some of these effects, for if they were to be attributed only to the height of the mountain, we that pass it in Chile ought to find those inconveniencies as much, or more, because the mountain is highest without comparison; and yet I never endured those reachings or vomitings, nor have seen any of those motions in others, but only the difficulty of breathing, which I have mentioned.

Others experience other effects, which I have often heard them relate; for the exhalations, and other meteors (which from the earth seem so high in the air, that sometimes we take them for stars), are there under the feet of the mules, frightening them, and buzzing about our ears. We go through the

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mountains treading, as it were, upon clouds ; sometimes we see the earth without any opposition to our sight, and when we look up, we cannot see the heavens for clouds ; but when we are ascended to the highest of the mountain, we can no longer see the earth for the clouds below, but the heavens are clear and bright, and the sun bright and shining out, without any impediment to hinder us from seeing its light and beauty.

The Iris, or Rainbow, which upon the earth we see crossing the heavens, we see it from the hight extended under our feet ; whereas those on the lower parts see it over their heads : nor is it a less wonder, that while we travel over those hills which are dry and free from wet, we may see, as I have done often, the clouds discharge themselves, and overflow the earth with great force ; and at the same time that I was contemplating at a distance, tempests and storms falling in the valleys and deep places, as I lifted up my eyes to heaven, I could not but admire the serenity over my head, there being not so much as a cloud to be seen, to trouble or discompose that beautiful prospect.

The second thing which makes this mountain admirable is the prodigious snow which falls upon it in winter, which is so great, that though these mountains are so high and broad, there is no part of them uncovered with snow, being in many places several pikes deep. I am not informed how it is in the highest part of all, which is most properly called Cordillera, because this being so very high, that it is thought to surpass the middle region of the air, its point alone may perhaps be uncovered ; in the beginning of winter, I have not seen a crum of snow ; when a little below, both at the coming up and going down, it was so thick as our mules sunk in without being able to go forward.

But that which I have observed is, that after a glut of rain, which has lasted two or three days, and the mountain appears clear (for all the time it rains 'tis covered with clouds), it seems

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white from top to bottom, and is a most beautiful sight ; for the air is so serene in those parts, that when a storm is over, the heavens are so bright, even in the midst of winter that there is not a cloud to be seen in them for many days ; then the sun shining on that prodigious quantity of snow, and those coasts and white shelvings all covered with extended woods, produces a prospect which, even we that are born there, and see it every year, cannot forbear admiring, and draws from us praises to the great Creator for the wonderful beauty of His Works.

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JUAN IGNACIO MOLINA.

The Natural History of Chile.

[Copied from an English edition existing at the British Museum.]

(Quoted pp. 159 to 161 of the Statement.)

CHAPTER I.

SITUATION, CLIMATE, AND NATURAL PHENOMENA.

CHILI, a country of South America, is situated upon the South Sea or Pacific Ocean, between the 24th and 45th degrees of south latitude, and the 304th and 308th degree of longitude from the meridian of Ferro.

Its length is estimated at 1,260 geographical miles, but it varies its breadth as the great range of mountains, called the Cordillera or the Andes, approach or recede from the sea; or, to speak with more precision, as the sea approaches or retires from the mountains. Between the 24th and 32nd degrees of latitude the distance of the sea from the mountains is about 210 miles; from the 32nd to the 37th it is but 120; and in the broadest part of Chili, near the Archipelago of Chiloé, it is little less than 300 miles. In calculating from these various extents the surface of Chili may be estimated at 378,000 square miles.

Sect. I.—LIMITS. Chili is bounded upon the west by the Pacific Ocean, on the north by Perú, on the east by Tucuman Cujo and Patagonia, and on the south by the land of Magellan. It is separated from all these countries by the Cordilleras,

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which form an insurmountable barrier on the land side, while the sea renders it secure upon that quarter. The few roads which lead to Chili from the neighbouring provinces are impassable except in summer, and are so narrow and dangerous that a man on horseback can with difficulty pass them.

The extent which modern geographers assign to Chili is much greater than that which the inhabitants allow it ; the former usually comprehends within it Cujo, Patagonia, and the land of Magellan. But these countries are not only separated from it by natural limits, but their climates and productions differ ; their inhabitants have countenances wholly unlike the Chilians, and their language and customs have no resemblance.¹

Chili properly called, or that part which is situated between the Andes and the sea, is at least 120 miles in breadth. It is commonly divided into two equal parts, that is, the maritime country, and the midland country ; the maritime country is intersected by the chains of mountains, running parallel to the Andes, between which are numerous valleys watered by delightful rivers. The midland country is almost flat ; a few isolated hills only are to be seen, that diversify and render the appearance of it more pleasing.

The Andes, which are considered as the loftiest mountains in the world, cross the whole continent of America, in a direction from south to north ; for I consider the mountains in North America as only a continuation of the Cordilleras. The part that appertains to Chili may be 120 miles in breadth. It consists of a great number of mountains, all of them of a prodigious height, which appear to be chained to each other ;

¹ Although the principal mountain of the Cordilleras is the natural termination of Chili to the east, I comprehend within its confines not only the western valleys of that mountain, as necessarily attached to it, but also the eastern ; as, though not comprised within its natural limits, having been occupied by Chilian colonies from time immemorial.

and where Nature displays all the beauties and all the horrors of the most picturesque situations. Although it abounds with frightful precipices, many agreeable valleys and fertile pastures are to be found there ; and the rivers that derive their sources from the mountains often exhibit the most pleasing as well as the most terrifying features. That portion of the Cordilleras which is situated between the 24th and 33rd degrees of latitude is wholly desert, but the remainder, as far as the 45th degree, is inhabited by some colonies of Chilians, who are called Chiquillanes, Pehuenches, Puelches, and Huiliches, but are more generally known by the name of Patagonians.

Sect. IV.—POLITICAL DIVISIONS. The political divisions of Chili consist of the part occupied by the Spaniards, and that which is inhabited by the Indians. The Spanish part is situated between the 24th and 37th degrees of south latitude, and is divided into thirteen provinces, to wit : Copiapó, Coquimbo, Quillota, Aconcagua, Melipilla, and St. Jago (which contains the capital city of the country of the same name), Rancagua, Calchagua, Maule, Ytata, Chilian, Puchacay, and Huilquilemu. The division of these provinces is very irregular, and imperfectly designated ; there are some of them which extend from the sea to the Andes ; others occupy but the half of that space, and are situated near the mountains or upon the coast. Their extent is also very various, some of them being six or seven times larger than others. These provinces were formerly occupied by the Copiapins, Coquimbranes, Quillotanes, Mapochinins, Promaucians, Cures, Cauques, and Penquons. At present there exist but few remains of any of these nations.

The Indian country is situated between the river Bio-Bio and the Archipelago of Chiloé, or the 26th and the 41st degrees of latitude. It is inhabited by three different nations : the Araucanians, the Cunches, and the Huiliches. The Araucanians do not, as M. de Pauw pretends, inhabit the barren rocks of Chili, but, on the contrary, the finest plains in the

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whole country, situated between the rivers Bio-Bio and Valdivia. Araucania lies upon the sea coast, and is calculated to be 186 miles in length ; it is generally considered as the most pleasant and fertile part of Chili ; its breadth, from the sea to the foot of the Andes, was formerly estimated at 300 miles, but the Puelches, a nation inhabiting the western part of the mountains, having joined the Araucanians in the last century, it cannot at present be less than 420 miles in breadth, and the whole of their territory is calculated to contain 78,120 square miles.

The Araucanians have divided their country into four principalities, or butalmapu, to which they have given the following names : "Lavquenmapu, or the flat country ; Lelvunmapu, or the flat country ; Inapiremapu, or the country at the foot of the Andes ; and Piremapu, or the country of the Andes. Each principality is divided into five provinces, or ailla-rehue, and each province into nine commanderies, or rehue. The maritime principality contains five provinces : Arauco, Tucapel, Ilicura, Boroa, and Nagtolten. The principality of the plain, Encol, Puren, Repocura, Maquehue, and Mariquina. The principality at the foot of the Andes, Marven, Colhué, Chacaico, Quecheregua, and Guanahue. The principality of the Andes comprehends all the valleys situated between the limits heretofore mentioned.

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MIGUEL DE OLIVARES.

**Military, Civil, and Sacred History of the Happenings
during the Conquest and Pacification
of the Kingdom of Chile.**

[Translated from "*Coleccion de Historiadores de Chile*," vol. iv. book i.]

(Quoted on p. 162 of the Statement.)

CHAPTER I.

EXTENT OF THE KINGDOM OF CHILE.

IN the same way that the acts of the understanding depend on the differences of the imagination, precisely so does clearness in history owe its source to the light of geography, because just as we cannot conceive spiritual ideas without their originating in those corporeal species which philosophy calls phantasms, we cannot obtain a full knowledge of the facts unless they are preceded, as a basis, by a knowledge of the place where they occurred. And so indispensable and so universally observed has been the custom of historians in placing before the reader some sort of sketch of the country which historical personages have made famous by their deeds, that Polibius, a renowned author, wishing to write the Roman history, and (as he was a Greek), without personal knowledge of all Europe, the principal theatre of the heroic actions of that victorious

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nation, travelled over it ; and Sallust, a Roman author, started with the same object to Africa in order to describe the Jugurthan War—both of them with the idea of obtaining for themselves more information to transmit to their readers, and to give an exact account of the regions where those events occurred, with the intention of transmitting them to posterity. On this account, and guided by reason and custom, I consider it necessary to describe the extent of the Kingdom of Chile which was made famous in battles and conquests by the victorious arms of our Catholic Kings—a land which was also the happy ground of the labourers of the Society and other priests of equal zeal who fertilized it with their sweat in order that it might yield them palms.

This Kingdom which Pedro de Valdivia in a subaltern capacity, and as Lieut.-General of Francisco de Pizarro, began to conquer for the Spanish monarchy in the year 1541, is situated in the extremity of South America. In length it extends from San Benito Hill in 22° S. lat. (the boundary between Chile and Atacama, the first province of Peru in this part) to Cape Horn on the 56° ; therefore Chile is 34 degrees in length, which reckoned at 20 leagues, each make 660 leagues ; the length of this kingdom from north to south stretches between the shores of the Pacific Ocean and the Cordillera Real de los Andes. Its breadth, not mentioning at present the Province of Cuyo, is from 30 to 40 leagues from the said shores of the west to the great range mentioned, situated to the east and stretching all along Peru for over fifteen hundred leagues until reaching the Straits of Magellan, where it disappears into the sea, to continue, according to the opinion of some, with other great mountains of the world, and, therefore, serving as the skeleton of this gigantic body or as the framework of this superb building.

Although it seems that the Author of Nature, when separating this kingdom from other provinces of the same continent

by the immense barricade of its connecting mountains, wished to distinguish it not only in its qualities, but also in its boundaries; the jurisdiction of the Spanish dominion extends, however, to the cities of the Province of Cuyo, which are three: Mendoza, at a distance of eighty leagues from Santiago, the capital of the Kingdom, and situated on the 33° ; San Juan, at a distance of 40 leagues north of Mendoza, and situated on the $35^{\circ} 30'$; and San Luis de la Punta, at a hundred leagues distance to the east of Mendoza, and situated on the same parallel. The boundary of the said province of Cuyo is as follows: On the north and from the foot of the Cordilleras stretches the valley of Jachari, as fertile and beautiful as possible, considering the barrenness of that land, and inhabited by several families of Indians and creoles, who, although subjects of the King, our Lord, occupy several huts in lonely regions selected by themselves. From Jachari to the east are Valley Hermoso and Olape Hill, where there are several veins of silver ore, but of such low percentage that they are not coveted; there is also the region called Quini, connected with a range separating the jurisdiction of La Punta, which corresponds to Chile, from that of Tucumán, until it reaches the spot called Punta del Agua. Some 6 or 8 leagues from this point the Córdoba range (commonly called range of the Comechingones) is to be found, stretching for some leagues until it meets the stream of the Falas which, as though following the demarcation, runs towards La Punilla, and from this point continues south towards a range called by the natives "Tandil," and very rich in minerals of gold, although they have not been exploited, because of their being situated in lands inhabited by unsubdued Indians. The rest of the territory down to the Magellanic Land is almost unexplored, and knowledge of this is meagre.

Several islands of considerable size are adjacent to this kingdom: Juan Fernandez, opposite Valparaiso, where by order of His Majesty, His Excellency Don Domingo Ortiz de

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Rosas founded a city and constructed a good fortress ; it is ruled by a Governor, and defended by a large garrison, and good artillery. Quiriquina Island, at three leagues distance from Concepción, Santa Maria Island, one of the many of Arauco ; Mocha Island, visible from Imperial. These three islands, although of good climate and beautiful, are devoid of inhabitants and cattle, in order that they may not serve as a refuge to enemies from the sea. Those of the Archipelago of Chiloé, some 150 in number, are under the protection of the largest of these, measuring 80 leagues. Their Spanish and Indian inhabitants maintain daily communication between them by means of small boats which they call "pirahuas." From Chiloé to the Straits, although there is a large number of islands, the Spaniards have not settled on any of them ; not that the heavy swell of the seas would stop their gallant boats, or the severity of the climate terrify them, but because in those islands are not to be found those precious articles which in other countries awaken and arouse avarice.

But the Chonos and Caucaes Indians, who through ignorance as to opulence and luxury, find existence bearable in those poor countries, live in them, the inexplicable sweetness which a fatherland inspires in all, making it a pleasing abode for them, as well as the fact that they regard both elements as their own ; so much so that if on land they seem men, in the sea they seem dolphins. From the latter, imitating with incredible facility the swimming of the fishes, they catch the most delicate of them, as well as an exquisite variety of shellfish, wherewith they have abundant food. They live happily, and, according to their standard, richly, with so small a share of the fruits of the earth ; to such a degree is it true that facility is only to be found in the satisfaction of Nature, and that happiness of spirit consists not in accumulating riches, but in diminishing covetousness. On the coasts of the Chilean sea there are numerous good ports, among which, apart from those not

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frequently used and, therefore, of less renown, mention should be made of Valparaiso, 25 leagues from the capital, and this is the one most frequented by ships from Peru, over twenty arriving there during the year ; of the large amount of merchandise brought by them, the greater part consists of articles of luxury, and the lesser of those of necessity ; the latter consisting of cloths of so much necessity that the people would be uncomfortable and in great need without them. The cargo they take back to Peru is estimated at 125,000 bushels of wheat, from 15 to 16,000 quintals of lard, 10,000 cordovans, 4,000 sole leathers, 200 quintals of flax, 1,000 quintals of rope, copper in bars or manufactured, 500 quintals of almonds, 400 husks of cocoanuts, and other products of lesser importance, such as saffron, aniseed, parsley, cumin, lentils, beans, dried cherries, and nuts, which are calculated at from 800 to 900 husks or sacks. The port of Concepción has the most beautiful bay, and offers the greatest security and defence against the winds which are very tempestuous here. It had a commerce with Lima, which amounted to one-fourth of that carried on through Valparaiso. That of Valdivia is the most powerful, and if Nature were aided by art, it would be impregnable ; it has four fortresses in well-chosen parts, many with very good artillery. The only product exported hence is timber of a very good quality, which was conveyed to the two capitals of Peru and Chile. The port of Chacao is also a safe harbour for ships. Its entrance is dangerous, because of its limited breadth, and frequent shoals, but this drawback is its natural defence, and besides it does not lack a garrison of soldiers sent by the Governor of the province. The ports of Coquimbo, Copiapó, and Huasco have no other special recommendation than their size and depth.

CHAPTER II.

OF THE CORDILLERA OF CHILE, AND ITS PARTICULARS.

ALL the writers who have reported concerning this Kingdom either in manuscripts or in print, have mentioned this Cordillera, which is certainly worthy of consideration, for even if there be in the world mountains of more stately height, leaving them the glory of such superiority (if it be a fact), it is, however, beyond doubt that in extent no ranges in the world can be compared with those of Chile, the length of which from Quito down to Magellanes is over 1500 leagues, and their width in parts reaches 40, and in other parts 50. Some write that this Cordillera is split in two very long ramifications by a continuous intermediate valley in which it is affirmed there is a road artificially made by hand, of 900 leagues in length from Pasco to Chile, and 25 feet in breadth; the work of the Incas who, it is said, had ordered the construction of houses at the end of each day's march for the comfort of travellers; yet, as the Cordillera of Chile has none of these things, but narrow pathways and dangerous precipices, the passage is accomplished with great difficulty and fear by the people travelling to and fro from the province of Cuyo. The Cordillera has passes in several parts, but the most frequented is that called Santa Rosa Pass, where the road named the Santiago and Mendoza road runs in this way: The ascent commences from the "correjimiento" of Aconcagua by the valley formed by the river of this name, which runs at the left hand side and has an abnormal depth, and on the right hand side rise steep rocky mountains of great height. The road goes up over such a narrow path that only a man on horseback, or a loaded mule can pass, the danger increasing with the height and narrowness of the canyon which in parts

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is entirely perpendicular, and in some parts is at a short distance from the edge of the road looking down the river, in which any one taking a false step must inevitably fall and certainly perish. Therefore this road can only be traversed on well-shod mules, horses being useless for these passages, because they are less sure-footed. Over equally narrow roads the journey continues for several leagues, skirting the river the whole way until this is crossed by a bridge where guards are stationed to prevent the introduction of forbidden merchandise. Once this bridge is passed, the traveller deviates slightly from the river, having it first at his right, and although one's body continues to feel the fatigue caused by the roughness of the slopes and ravines, one's spirit is relieved and cheered by considering the danger to be not so evident and of less terrifying aspect, and with finding so many and such beautiful brooks which quench thirst with their coolness, gladden the eye with their sparkle, and stir imagination with the varied and musical ripple of its currents which at times flow straight, at times obliquely, slowly or rapidly, according to the declivity of the ground, and with so much natural beauty and perfection that no art could imitate it, nor imagination conceive it. Some brooks run, some leap up, and some fly, for falling from very great heights and finding the intermediate space empty, they fall to earth through the air, and when this blows with some violence it cuts and divides the waters, now into big drops like pearls, and again in very small ones like sand, driven hither and thither before the winds. In like manner the hardships of the road are greatly diminished by the plateaux to be found at intervals as perfect as though made by hand, and as beautiful as works of Nature can be, ornamented by the freshness and greenness of the grass, the variety and fragrance of their flowers. Travelling in this manner one reaches the place called Juncal, named after the "juncia" (water willow), which grows there. Here there is another company of soldiers, with their corporal, and

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this place is situated at the foot of the highest summit on the whole Cordillera. This summit dominates all of it, and gives an unobstructed view on the east to the cities of the province of Cuyo, and to the immense extent of its plains, and on the west to the Kingdom of Chile and to the South Sea. The ascent and descent of the said summit is made in a few hours, although with much difficulty, but with no serious danger. On the other side and at its foot are found the famous caves, which are like rustic buildings made by the loving foresight of the Creator, in solid rock dug in the shape of huts, and not only do they serve in the warm season as a protection from the heat reflected in those canyons, but also in the cold season to save the lives of travellers overtaken by a snowstorm who would undoubtedly perish from exposure did they not take shelter in those natural vaults, where they remain until the sun melting the snow gives them a free passage. Once this region is passed, the road follows along the River Mendoza which rises near here to the right, and which, during about a day's journey remains in sight until the road becomes a narrow pathway between the said river and some rough and steep cliffs, which once more cause the traveller fatigue and alarm, until reaching Valley Uspallata, a level and pleasant spot: qualities which, after recent experiences one has suffered, make it appear more worthy of praise. On both sides of this high mountain of the Cordillera, that is to say, to its eastern and western part, houses are seen in the valleys which are traversed, as to which no other supposition can be formed but that the Indians of Peru made them by order of their monarchs or of their Commanders-in-Chief, in order to give the leaders or subalterns of the troops passing over to Chile some shelter from the snows or cold and keen winds which are felt at those great heights, at night even during the hottest months. These different houses are built as a rule at a distance from each other proportionate to a day's march of an army, although this

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proportion is not regularly observed in all of them, because sometimes some are found at a league's distance or even less from others, and we can imagine the great power of those Princes, enjoyed also by their servants, who constructed buildings with the object of spending a night at ease and in comfort. These buildings have roofs and walls made of stone, not shaped nor joined with plaster, but arranged by a skilful minuteness in selecting flat surfaces for the exterior, and rough ones for the interior, according to shape ; and so these buildings have lasted for several centuries in a land of earthquakes and without anybody troubling to repair these ruins : a thing to marvel at. There are usually several houses together in each halting-place, and one of them always overtops the others, and exceeds the rest in size, as though apparently intended as an honourable and comfortable shelter for the chiefs and their numerous families. Most of them are quite ruined ; in some of them the greater part of the walls stands, and, in a very few of them, some small portion of the roof. They are rustic buildings, which from the fact of their being found in desert regions excite the curiosity and inspection of the traveller who stops with pleasure, thus relieving the monotony of fatigue and danger, and giving him an opportunity of philosophising as he may please upon the efficient and final cause of these monuments, singular because of their position and shape, and venerable by reason of their antiquity. And as we are near the highest summit of the superb structure of this famous Cordillera, we shall give an account of another of its peculiarities close by : namely, its volcanoes. Their total number is sixteen ; the first one near Copiapó, towards the tropic of Capricorn ; the last towards Cape Horn, looking to the South Pole ; but that of Villa Rica presents a very agreeable spectacle on account of its size and height. This, which rises from an immense, perfectly circular base, in a pyramidal form, lifts its proud brow so high that in spite of the convexity of the terrestrial

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globe, and the very high mountains and forests which intervene, it may easily be seen at a distance of 60 leagues. A monstrous grandeur made graceful and lovely by the bright snow which beautify its summit, and by the gleaming emeralds of its green turf, adorning and covering its slopes with majesty : for which reason we might give it a name at once metaphorical and appropriate—" the Gallant of the Mountains," or " Coloseros "—a Greek word which the Romans applied to that most handsome giant, Esius Proculus.

CHAPTER III.

THE SAME DESCRIPTION IS CONTINUED, AND SOME REFLECTIONS
ARE MADE ON A RECENT OCCURRENCE

FROM the road which we have described towards the Tropic, all the mountains of this Cordillera are less pleasing and cool, but are richer in all kinds of minerals, especially in silver. From this road towards the Pole it is different, not that this part lacks gold, silver, copper, iron, tin, and lead, but because the veins are smaller and not so continuous as in the other part ; and because it is of greater amenity ; also because the slopes on one and the other side of the Cordillera which separates into many branches, form very extensive depressions draped with all kinds of verdure, and provided with abundant fresh and clear waters, in which are reared and fattened many herds of large cattle, and because the same mountains of the range, spreading lengthwise, form valleys and dales of great extent, in which are pastured even larger herds than on the slopes. This privilege is enjoyed, according to their respective territories, by the " correjimentos " of Maule, Chillán, and the Department of Laja, but those of the Province of Chillán cannot enjoy the beautiful lands of its Cordillera without very grave

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risk of robberies by the Peguenche Indians. These roam about the country opposite the territory of the city of Chillán, the Cordillera being in the middle ; but as this Cordillera here breaks up into so many branches, it is less high and more accessible, and the “ potreros ” (pasture fields) situated in its centre are of doubtful ownership, by reason of their being easy of access from both sides. The natives of the city of Chillán used several of them. A good many years had elapsed without any special arrangement as to the Indians, until four years ago, when a resident of the name of Francisco Mercado was robbed of some hundred horses. Finding no other way of obtaining retribution, Mercado armed twelve or more servants of his dependency, and crossing to the Peguenches' lands without being discovered, imposed upon them a fourfold penalty, by seizing four hundred horses. The Indians filed their complaint at the Captaincy-General, which ordered the restoration of the horses, and proceedings against the culprits, of whom Francisco Mercado himself and two of his servants who were brothers, named Echavarrias, were captured and exiled to the garrison of Santa Juana. Mercado returned home after a confinement of two years ; but as the servants were recently married, and also to two sisters, this period seemed long ; they determined to shorten it at their own risk, and dared to cross the great river Bio-Bio (the passage of which was necessary to effect an escape) with equal courage and a more honourable object than Leander's, when for love of Hero he attempted to cross the Thracian Bosphorus, and they perished with an equal audacity. So things remained till the month of February, in the present year of 1758, when the Peguenche Indians again robbed the residents of Chillán of 600 horses, from the “ potreros ” called “ El Reldun ” and “ Valle Hermoso ” ; this I can vouch for, because I was in the city at the time of the occurrence, and when complaints were made to the judge, requesting permission to retaliate. It is certain

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that they would not have permitted this were they not restrained by the fear of acting against an Order as to the reason of which I am not sufficiently prepared to speak with correctness, because a religious man who does not even live up to the century, does not allow his speech to go beyond a certain limit prescribed by prudence, in order not to trespass on the political mysteries and profound secrets of the Government, which it is proper that we should respect without bringing them to the tribunal of criticism. But looking only at the surface of things, it seemed to me there was no moral or political reason for glossing over and leaving unpunished the violence of this spoliation. In the first place, good policy could not dictate this glossing over, because the damage has already been done, and the fact of not punishing it is a practical approval of the past and a tacit acquiescence for the future, for whoever does not forbid evil, being able to do so, encourages it. There is no reason for saying here that the lesser evil is permitted in order to avoid the greater one, for the city of Chillán and its province had no cause to fear the arms of the Peguenche Indians. In past times there was good cause for fear when the number of the Indians exceeded that of the Spaniards, but things have now entirely changed, for the number of Spaniards is much greater, our arms are better, the science of war is superior, and our territory better defended. The Spaniards can cross to the lands of the Indians whenever they choose, by reason of their frontiers being defenceless; for, having no political and military government, they lack soldiers to guard the passes from the Cordillera to their lands. The Spaniards, on the contrary, constantly maintain in those passes a garrison capable of opposing the passage of the enemy, but even in the most unhappy position of being forced to retreat, and even of being killed, it is impossible that one of the guards, seeing the case lost, should not escape to give information to the neighbouring houses, in order that the news be communicated to others,

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that the militia might assemble as it is arranged and ordered in similar cases, and is customary in minor ones ; in which event, by closing those narrow gorges with a body sufficient to render them impassable and prevent the enemy retreating, they would be obliged to surrender or be slain, attacked by an enemy who would fight confident of his superiority, and with the courage of one who defends his own house, and repulses an unjust invasion. The Peguenches know all this, and therefore would never be so foolishly self-confident as to harbour the imprudent project of invading the land belonging to the Province of Chillán, being unlike the stupid animals of the fable who entered the lion's cave without having explored its exit. There appears no reason, therefore, from a military standpoint, for allowing the said Peguenches to commit the aforesaid outrages with impunity. Secondly, there is no real moral reason for permitting this ; rather, all Divine and human laws and natural equity permit and entitle us to repel force by force, and therefore this right to use arms against arms, and to defend ourselves even to the point of bloodshed, against any one attempting to deprive us unjustly of our life and property is a right which we have not so much heard of, or learned from our predecessors, or from the teachings of wise men, as we find it engraved on our soul and ratified by the inviolable law of reason. It is perfectly true that it is not lawful for private individuals to rectify wrongs by private authority when they can be redressed by public authority, but when the aid of the latter is lacking or there is no time to request it, the former may be exercised ; it being certain that when people gave authority to one head for their government and preservation such authority was given because it was judged to be the best means of attaining the object, and because it must be exercised very frequently, not because it was intended to be the only one in all circumstances ; and thus it always maintains the people in subjection, which is the law of nations, in liberty

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which is the natural law, and the more powerful so that a private case may be defended and redressed when public authority fails to do it. Were this not so it would be useless for private individuals to gird on their sword in times of peace, and they could hardly be allowed to use what they could not unjustly use as said by the greatest Roman orator : “ *Quid gladii nostri volunt, quos gestare utique non liceret, si uti illis nullo pacto liceret. Cicero, pro Mil.*” Hence, when the Republic permitted its citizens to carry a sword, it amounted to placing it in their hands when they should need it, because otherwise if a private individual could not protect his person or his property from an unjust aggressor, two very hard results must ensue : either he must allow himself to be robbed and even killed by the hands of the aggressor, or must perish condemned by decision of the judges ; which although it is of greater force when the unjust attempt is against our lives, is also extended by wise men to the defence of our property, in which case even violence is permitted when necessary. And yet some say that the Peguenches are barbarians without any chief, government or control, and that therefore it would not be fair that the whole of a nation or that part of it which did not co-operate, should pay for damage done by a private individual from whom, if known, reparation should be exacted. These methods of argument are the mere quibbles of certain geniuses who wish, like the sect of the Sophists, to attack everything, or are the result of affected ignorance on the part of those who wish to appear saints by appearing very scrupulous, who sometimes swallow a camel, and are choked by a gnat. For if such argument had any weight whatsoever, the logical conclusion would be that misgovernment was a better state than government, because the latter does not allow any insults, especially those which redound in damage to a third person, and on the contrary, to a barbarous misgovernment it would be permitted, like human jurisdictions, to perpetuate them all. It would

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be a notable exception in law that when a tribe should be charged with the fact that one of its citizens committed offences, it should answer that it had no power to repair or redress damages ; it would surely be a ridiculous excuse or insufficient, and such tribe should be forced, as prejudicial to human society, not only to repair the damage done by its citizens, but also to place itself in a position to prevent them in the future, or to answer for them ; that is to say, that it should not be possible for it to be ignorant of the fact that they are hidden in the tribe of the Peguenches. The identification of the perpetrators of those robberies is another extravagant paradox, as if to carry away 600 horses were like putting six coins in one's pocket, just as though those horses did not graze in plains beneath the sun, or if they were not to be ridden by the thieves or exchanged for other articles to persons of the same tribe. The truth is that this is a very criminal glossing over, and a very affected ignorance which makes just as much of a robber of the person who consents to the robbery when he might prevent it, as the robber himself ; and it must be felt that in the said case reprisals on the said Indians may be excused, for it is an action by virtue of which, as said by the Juresconsults, by the fact of contracting a debt, or doing an injury to a third person, the offender's person and property are burdened and liable to give satisfaction ; and this is such a universal practice among the Indians that if a Spaniard does them injury, whenever a Spaniard goes to their lands they rob him, telling him to recover his property from the offender. And nobody can reasonably object to being judged by the law which he himself has instituted, as a principle of law lays it down, and even long before the establishment of this law it was put in practice, for *Licinus Estolon*, a representative of the people, having promulgated a law to the effect that no Roman could possess above 500 acres of land, and the said representative having exceeded that limit, overlooking his own law, he was condemned by it with the great approval of the Roman people.

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ARGENTINE MINISTER'S

Note of November 16, 1848, including the Chilean Minister's Note of August 30, 1848.

[Translated from "*Memoria de Relaciones Exteriores de Chile*," 1873, pp. 15-19.]

(Quoted on p. 188 of the Statement.)

Note from the Minister for Foreign Affairs of the Government of Buenos Aires, entrusted with those corresponding to the Argentine Confederation, to His Excellency the Minister for Foreign Affairs of the Republic of Chile.

Long live the Argentine Confederation! Buenos Aires, November 16, 1848, the 39th year of Liberty, 33rd of the Independence and 19th of the Argentine Confederation.

THE Undersigned has laid before His Excellency the Governor Your Excellency's favour dated the 30th of last August, the text of which is as follows:—

"As the two notes which Your Excellency has done me the honour of addressing to me under date of the 13th and 15th of last May refer to similar matters; the first, to *the sovereignty and ownership of certain lands situated between the Chilean Province of Talca and the Argentine one of Mendoza*, and the second to the sovereignty over the territory washed by the Straits of Magellan, where a Colony has been recently formed under the auspices of this Republic, Your Excellency will allow me to reply to both at the same time, by stating the considerations respecting the two matters which my Government wishes to call the attention of the Government of Buenos Aires, entrusted with the Foreign Affairs of that Federation.

"In the present state of both questions, titles are produced which each of the interested parties declares to be clear, authentic

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and unquestionable ; and the evil results of such a conflict of pretensions which might injuriously affect private individuals, citizens of one or of the other nation, being manifest, and in view of the risk of disturbing the relations of cordial friendship and fraternity, which it is so important to cultivate between this Republic and the Argentine Federation ; it seems just and proper that *both Governments should reciprocally communicate the foundations of their claims and should proceed to the exact demarcation of the boundary where the Chilean territory and that of the Federal provinces touch.* This is an object as to which my Government has previously attempted to induce the Government of Buenos Aires to share in the ardent desire with which they are animated, and they cannot do less than emphatically repeat their requests in order that an agreement, in which interests of no small magnitude are at stake, should be no longer delayed. Now that the difficulties which affected the Argentine Federation have been so honourably ended, and the Government of Buenos Aires can turn their attention to other matters, which unquestionably demand it, it seems to me the most opportune moment to urge them to concur with that of Chile in the arrangement indicated. Your Excellency has been good enough to inform me that His Excellency the Governor of Buenos Aires, being desirous of avoiding difficulties between friendly and neighbouring countries, proposed giving instructions to the Argentine Minister who was appointed to come to Chile on *the matter of the Cordilleran potreros*, and you make me a similar announcement respecting the question of the Magallanes territory. In reference to this my Government directs me to enquire if the arrival of the said Minister at his post will be further delayed for some time, and in such a case whether it would not be possible to settle the matter of the *potreros* by means of Commissioners from both parties who might visit the disputed territory and, mutually *producing their titles*, state the arguments which, in their

judgment, strengthen such titles, who might examine the locality and in view of the foregoing, might trace *by mutual accord, the boundary line*, subject to the ratification of their respective countries. Such is the course always followed by nations in order to settle controversies of the same character, and I believe that even in the case of the Minister whom you announce, arriving with the promptness desired, the inspection of the locality by competent persons, could not be dispensed with."

And Your Excellency ends in the following manner :—

" I refrain from repeating the reasons of justice and mutual convenience which constitute the base of the fresh request which, by order of my Government, I have the honour to make to the Government of Buenos Aires through the respected medium of Your Excellency ; because the Government of Buenos Aires cannot fail to recognize them ; and because from their friendship and justice my Government are persuaded that they will give them all the value they deserve."

His Excellency the Governor has read, with the keen interest which it deserves, this important communication of Your Excellency, and entirely concurring in the friendly sentiments which the Government of the Republic expresses therein, has directed the undersigned to reply to it in the following terms.

The Argentine Government, being always animated with the best sentiments towards the Government of the Republic of Chile, although they have always considered their rights to the territories of the Straits of Magellan, and those adjacent to them, as likewise to the potreros situated in the Cordilleras, to be most clear, positive and fitting, they have been disposed, as they are at present, to enforce them with the greatest frankness and loyalty in discussing these interesting objects. In view of this conviction and of their desire to preserve intact the ties of friendship uniting both Republics, I believe, like Your Excellency, that to attain the best results it is indispensable that both Governments should reciprocally communicate to

Quoted
p. 188.

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each other *their respective titles to the disputed territories*, in order to arrive at a fair and equitable decision in conformity with the rights disclosed by them.

With this object, the Government of the undersigned has the intention of placing their Minister Plenipotentiary accredited to Your Excellency in possession of all the documents and antecedents necessary for a minute discussion of the rights to the property of the Republic in both territories which he is directed to maintain. The discussion may perhaps show the necessity of an inspection of the locality and possibly the formation of a joint commission to this effect, specially for the examination of *the lands in which the potreros of the Cordillera called Montañez, Los Angeles, Yeso and Valenzuela* are situated, in order that it may trace the boundaries of that Republic in the Province of Mendoza on this side. But were this operation executed, it could never be carried out till a logical discussion had convinced the interested parties of its necessity, and without *previous examination of the titles* upon which depend the respective rights of ownership to those lands maintained by both Governments.

But although the Government of the undersigned acknowledge that this is the course which perhaps may have to be taken in order to attain the solution of this claim, they regret that they do not share the same opinion as to the immediate general demarcation of the boundaries between the territories of both Republics. Its advisability is unquestionable, but the Argentine Government is not in a situation at present to attend to a subject of such great magnitude.

The work of the demarcation of the boundary requires other conditions than those in which the Government find themselves at present. They see themselves still involved in the difficulties caused by the Anglo-French intervention which still endangers the vital interests and existence of the Republics of the River Plate and which up to the present has prevented them from

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carrying out important domestic arrangements, which they cannot possibly ignore.

On the other hand, it is necessary to collect abundant geographical and historical data and other scientific elements, which can only be prepared slowly, minutely and carefully. This is a work which in itself requires a pacific and adequate period and to which it is not possible to devote ourselves at the present moment. Therefore, it cannot be doubted that the Government of Your Excellency will acknowledge the force of these remarks and receive them as they deserve.

As to the departure of the Argentine Minister accredited to that Government, the Government of the undersigned intend that it should take place as soon as business permits of attention being paid to it, and of their obtaining the adequate information as to the matters respecting which he is to devote himself in that Republic. His Excellency the Governor regrets not being in a position to inform Your Excellency whether the said departure will be still further delayed. His wishes are that it should be carried out as soon as possible. Everything must depend on urgent affairs to which the Government must give precedence and upon these affairs permitting the despatch of another Minister.

The undersigned, in fulfilling the orders of His Excellency the Governor, rejoices in the belief that the Government of Your Excellency will acknowledge without hesitation the sincere desire which leads him to proceed in these grave and delicate matters with all the interest they demand, and which it is indispensable to employ when there are at stake relations of friendship between both countries, which are so essential to the reciprocal greatness and to the perfect understanding of two sister Republics.

May God preserve Your Excellency,
FELIPE ARANA.

No. 19.

ARGENTINE MINISTER'S Note of December 15, 1847.

[Translated from "*Memoria de Relaciones Exteriores de Chile*," 1873, pp. 7-10.]

(Quoted on p. 200 of the Statement.)

The Minister for Foreign Affairs of the Government of Buenos Aires entrusted with those corresponding to the Argentine Confederation, to His Excellency the Minister for Foreign Affairs of the Government of the Republic of Chile.

Long live the Argentine Confederation! Buenos Aires, December 15, 1847. 38th year of Liberty, 32nd of the Independence and 18th of the Argentine Confederation.

THE attention of the Government of the undersigned had been repeatedly called to the narrative and details given by the Government of Your Excellency to the National Congress of the Republic of Chile respecting a new Colony which the Government of that Republic had ordered to be established on the coasts of the Straits of Magellan and which was called "Colonia de Magallanes," or "Fuerte Bulnes," in honour of the present worthy President. The urgent affairs with which for some years they had seen themselves surrounded and the necessity of attending preferably to the national defence and the independence of the Republic, menaced by inhuman European intervention, prevented them from acquiring sure data and knowledge regarding the geographical position of the said Colony and whether it was situated in Chilean territory or if

it had gone beyond its natural boundary and been founded in the territory of the Argentine Republic.

But during this lapse of this time the Government of the undersigned had arrived at the conviction that the said Colony is situated within the territory of this Republic, and that, occupying the same place which during the Spanish monarchy was occupied by Port San Felipe, known to-day to the greater number of geographers as " Puerto del Hambre," it is in the southernmost part of Brunswick peninsula and consequently almost in the centre of the Straits.

The situation of the Colony being such, it is clear that it is founded within Argentine territory, in view of the very boundaries which the Republic of Chile gives herself in her own national constitution. The great chain of the Andes has been the boundary of the territories of the Argentine Confederation and these natural boundaries have been those which for all time have been recognized as those of the Republic of Chile. *In the eastern summit of that chain the Argentine territory begins, which it delimitates in all its extent as far as Cape Horn.*

"Fuerte Bulnes" being situated in the said peninsula, its geographical position shows that it occupies a central part of Patagonia and as a natural consequence that by its foundation the integrity of the Argentine territory has been destroyed, as also its full dominion over the lands which the Straits include from the Atlantic to the shores of the Pacific where reaches the great Cordillera de los Andes, the acknowledged boundary of the Republic of Chile.

The Government of the undersigned are inclined to believe that the Government of the Republic of Chile will not entertain the slightest doubt as to the indisputable rights of the Argentine Government to the Straits of Magellan and lands surrounding it. From the remotest time in which the Spanish monarchy took possession of this part of America and in which it established

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the *Gobernaciones* and *Intendencias* of the present Republic of Chile as well as of the Confederation, the orders for the protection and police of the Straits of Magellan, as well as for other purposes appertaining thereto, as likewise those for the adjacent islands and Tierra del Fuego, were always addressed to the Governors and Viceroys of Buenos Aires as the authority to which all that part of the territory was subject.

The Republics of South America, when severing the ties which connected them with the metropolis and when constituting themselves as sovereign and independent states, *adopted as a basis for their territorial division the same demarcation which existed between the various Viceroyalties which constituted it.* Once this principle is established, which is by itself incontrovertible and the fact being undoubted that authority was exercised by the rulers of Buenos Aires to superintend the Straits of Magellan, it is therefore evident that the Colony ordered to be founded by the Government of Chile in the said Straits attacks the integrity of the Argentine territory and encroaches over its proper boundaries, in detriment to its perfect dominion and its rights of territorial sovereignty.

The Governor, by whose orders the undersigned presents these observations to Your Excellency, and who acknowledges the correctness characterizing the administration of that Government no less than their desire to remove all reason which might alter in the slightest the good and cordial relations of friendship which happily are maintained with the Government of the Argentine Federation, has the agreeable conviction that, once it has demonstrated that the Colony is situated within the territory of the Republic, they will immediately give orders that it should be abandoned, in just respect for those very rights and on account of the primary interests of both Republics in preserving intact the ties of perfect friendship which happily unite them.

The Government of the undersigned abstain in the present

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Note from going into more detailed inquiries upon the founded right of their claim ; and should those already stated not suffice in Your Excellency's opinion for the attainment of the object desired, they will consider it their duty to instruct the Argentine Minister who will start for Chile with full instructions for the prosecution and due discussion of such a vital and important affair.

Quoted
p. 200.

It is pleasant to them, however, to be persuaded beforehand that the enlightened Government of the Republic of Chile will acknowledge the rights of the Argentine Government, and that, with this motive, they will have a fresh opportunity of showing the friendly sentiments which they have for this Government and their resolution to keep in the future in their plan of colonization within the unoccupied parts of their territory without inflicting any injury on the neighbouring and bordering Republics.

May God preserve Your Excellency many years,

FELIPE ARANA.

No. 20.

CHILEAN MINISTER'S NOTE OF JUNE 25, 1873.

[Translated from "*Memoria de Relaciones Exteriores de Chile*," 1874, pp. 263, 264.]

(Quoted on page 209 of the Statement.)

LEGATION OF CHILE TO THE REPUBLICS OF THE RIVER PLATE,
BUENOS AIRES, *June 25, 1873.*

MR. MINISTER: After the claims and protests formulated by my Government and this Legation with reference to the acts of jurisdiction and of dominion which your Excellency's Government have exercised or attempted to exercise in the territory of Patagonia disputed between Chile and the Argentine Republic,—and this question, after the titles alleged by both nations have been discussed, being on the way to reach a friendly solution, as befits the sentiments and interests of the two sister Republics,—I have seen with deep surprise that in a project of law upon colonization lately presented to the National Congress by Your Excellency's Government, there is included among the territories destined for that purpose "the region comprised between the River Negro and the Atlantic, the Andes and the Straits of Magellan": that is to say, the whole of Patagonia.

In this manner Your Excellency's Government, in opposition to the *status quo* implicitly established by the Treaty of 1856, and without taking into account the rights alleged by Chile to the dominion of the mentioned territories, or the protest to which the unlawful concessions previously granted in

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them by the Argentine Government have given rise, or the detriment which acts of this nature must cause the negotiations carried on at Santiago for the settlement of the boundary question, claim to dispose, not only of the disputed part of those territories, but even of that which Chile has really and effectively occupied for many years back, and as to the tranquil possession of which, tacitly supported by a Treaty and acknowledged by the whole world, no doubts or discussions are admissible.

Therefore in the presence of a similar act which tends to damage the rights of Chile to the territory mentioned and to disavow her sovereignty in the part which she legitimately and peacefully occupies, and bearing in mind that this is the second occasion on which Your Excellency's Government disregards the protest which, on account of an encroachment of a similar nature, I had the honour to present to Your Excellency under date of the 20th of August of last year, it is my painful duty to repeat it once more with all the strength and force arising from the perfect right which my Government has to do so, by protesting solemnly in their name, as I now do, against the aforesaid project of law in the part referring to Patagonia ; declaring at the same time to Your Excellency that my Government will not consent to any act detrimental to their sovereignty over the entire extent of the territories in which they find themselves in actual and peaceful possession and which have their natural boundary in the River Santa Cruz.

With this object, I have the honour to repeat to Your Excellency the assurance of my highest consideration.

G. BLEST GANA.

No. 21.

DOCUMENTS RELATING TO THE CORDILLERAN POTREROS QUESTION (1846-47 and 1864).

Enclosure A.

Decree Issued by the Governor of the Argentine Province of Mendoza on December 4, 1846.

[Translated from QUESADA, "*La Patagonia i las tierras australes del Continente Americano*." Buenos Aires, 1875, p. 483.]

(Quoted on page 226 of the Statement.)

THE Government, wishing to promote as much as possible the knowledge of those lands and of their boundaries which include the "Potreros" del Yeso, Los Ángeles, Montañez and Valenzuela, situated in the south of the Province, resolve and decree :

1. A Commission is hereby appointed which will be composed of the Citizens Don Cármén José Dominguez, and the Surveyor Lieutenant-Colonel Don Nicolás Villanueva to survey those valleys, make a plan of their topographical location, *of the course of their waters* and of whatever may be connected with the object pursued by the Government.

2. Be it communicated.

SEGURA—CELEDONIO DE LA CUESTA.

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Enclosure B.

Report of the Commissioners Appointed by the Governor of Mendoza, dated April 27, 1847.

[Translated from QUESADA, "*La Patagonia i las tierras australes del Continente Americano.*" Buenos Aires, 1875, pp. 483 et seq.]

(Quoted p. 218 of the Statement.)

THE Cordilleras de los Llaetas and Planchón which are drawn on the annexed map, are the continuation of the preceding ones, and the valleys Valenzuela, Montañez, el Yeso and los Ángeles, which are in the same situation as that of the Tunuyan, cannot in any circumstance be considered as an integral part of Chilean territory.

The rivers which flow from them, as may be seen on the map, are affluents of the great Colorado, which empties itself into the Atlantic on the Patagonian Coast, and these, like the preceding ones, are so large that the River Grande can be crossed only opposite the Valenzuela, and even there with danger ; from its confluence downwards, it is navigable to a depth of five or six feet, which gradually increases towards the south.

In order to show more clearly how unfounded is the claim to the valleys in question, *the map we present has been extended up to the sources of the River Grande*, and in view of this it must be inferred that the valleys Hermoso, El Cobre, Santa Elena, etc.,—concerning which no claim has been made in spite of the fact that the Chilean farmers have been paying pasturage there for the last ten years,—are found to be in the same situation.

This fact and the frank confession made to the Commission by several inhabitants of Talca, who were there with their cattle, that they could not deny that such territory was in reality

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Argentine, and that, therefore, they paid to this Province for the right of pasturage, unmistakably proves that the Government of Chile have been misinformed by one or more individuals maliciously interested in the possession of those fertile valleys. . .

CARMEN JOSÉ DOMINGUEZ.

NICOLÁS VILLANUEVA.

Enclosure C.

Translation of Extracts from Dr. A. Bermejo,

“La Cuestion Chilena i el Arbitraje”

(*Buenos Aires*, 1879).

(Quoted on pp. 220 to 224 of the Statement.)

(P. 93) THE demarcation between the Chilean and Argentine possessions on the summits of the Andes is connected with the discussion respecting the Potreros of the Cordillera which we shall now examine. Quoted
p. 221.

The most elevated mountains of the Andes, in their prolongation to the southern extremity of the continent, separate in diametrically opposed directions the watercourses which fertilize the territories stretching to both sides of them. Quoted
p. 220.

Given the extent of the Cordilleras, which attain *a considerable breadth* in almost their entire length, the necessity is obvious of adopting, respecting the valleys included in them, a line of demarcation which might adjudicate them equitably and reasonably to the bordering nations.

In this case, the water-parting line, that is to say, the *divortia aquarum*, defined as the boundary by all the writers, determines a clear and convenient base for the delimitation of territorial sovereignty. More than this, many authors, such as Bluntschli, teach that in doubtful cases, the water-parting line constitutes the legal boundary.

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As is known, the Cordilleras form several chains of mountains which, bifurcating at several points, leave between their ramifications, extensive valleys the vegetation of which is a contrast to the barrenness of *that orographic system*.

Among these valleys are those known by the names of Yeso, Valenzuela, Montañas, Los Angeles, and several others situated between parallels 35° and $36^{\circ} 30'$ South latitude on the head-waters of the River Grande, an affluent of the Colorado.

These valleys have also tempted the insatiable covetousness of Chile, thus giving rise to what is called " the question of the Potreros de Cordillera."

By reason of the tax on pasturage in them having been collected by the Commandant of San Rafael, the Minister, Don Manuel Montt, in a note dated the 7th April, 1846, claimed for the first time the ownership of the above-mentioned valleys, as the property of the Chilean subject, Don Manuel Jirón, and as being situated to the west of the dividing line of the Andes.

This is the origin of the claim.

Although insignificant at first sight, it must be acknowledged that this (that of the Potreros of the Cordillera) question is of the greatest importance, however slightly the special condition of the Andean provinces be taken into consideration. The industry of these provinces being entirely dependent on the *irrigation* supplied by the streams which rise in those summits, it will be understood that the Chilean jurisdiction if extended *to this side of the origin of those streams*, would hold the very life of those Argentine provinces at its mercy.

(P. 102) Moreover, it may be understood that the delimitation of the Argentine and Chilean territories in the valleys of Mendoza, as in the coast of the Straits, will be reduced to a *technical survey which may determine the situation of them in regard to the water-parting line in the summit of the Andes*.

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The Government of Chile thus understood it when, in the report of Minister Vial in 1847, in the message presented by President Bulnes in 1848 and in all the official documents of that time, it proposed to the Argentine Government the appointment of a joint Commission which by "tracing a line over the highest summits of the Cordilleras might fix the precise boundary to the east of the Andes and decide the ownership of the territory of the Straits."

With the same object, by a decree of the 10th October, 1849, that Government commissioned the geographer Pissis "*to indicate with precision the edge or culminating line which separates the streams flowing towards the Argentine provinces from those running towards Chilean territory.*"¹

The Government of Mendoza, under date of the 4th of December 1846, commissioned Colonel Dominguez and Don Nicolás Villanueva, who issued their reports on the 7th of April, 1847.

After a minute examination of the localities the commissioners ascertained that the extensive mountains of the Andes form, throughout their extent, two branches of Cordilleras, separated by great valleys of more or less depth, *all of which present their main declivity to the east*; that in their midst are joined the waters proceeding from both mountain chains, and therein are formed the innumerable rivers which rise to the surface of the Argentine territory. Quoted
p. 223.

The valleys Valenzuela, Montañas, el Yeso and Los Angeles, the Commissioners say, are in the same condition as the Tunuyán, and cannot in any manner be considered as an integral part of Chilean territory.²

¹ From Pissis' map, as from the testimony of Domeiko, it appears that the mentioned valleys are on Argentine territory.

² MSS. of the Archives of Mendoza. In the map accompanying Dr. Saenz' work entitled *Limites y posesiones de Mendoza*, the location of these valleys may be verified.

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Enclosure D.

Statement of the Governor of Mendoza in 1864.

[Translated from "*Memoria del Ministro de Relaciones Exteriores de la República Argentina*," 1872, pp. 31 to 33.]

(Quoted on p. 226 of the Statement.)

THROUGHOUT all the explored extent of the Cordillera of the Andes, comprised between Uspallata and Planchon, a distance of about 150 leagues by road, it may be observed that, from either side, opposite rivers flow, which, with all their tributaries, descend to the plains and valleys of the Argentine and Chilean territories, such as the Rivers Mendoza and Aconcagua, the Tunuyan and the Maipo. The greatest heights from which these rivers start are what has always been considered as the boundary between the two countries. *In the case of the Cordillera of Uspallata, the boundary is very clear, because the two rivers begin to be formed shortly after the descent has commenced on either side.* Twenty-five leagues more or less to the south comes the Valley of the Tunuyan, formed by two Cordilleras of equal height, 8 leagues apart, the eastern being called Portillo, and the western Piuquenes. *If the River Tunuyan had not been formed in this valley, finding an outlet on this (Argentine) side, the boundary here would have been doubtful ; but that river and its affluents, flowing into the territory of the province, have fixed the boundary on the Cordillera of the Piuquenes, where the Maipo River, watering Chilean territory, takes its source.* Then come many other brooks, which in summer become furious torrents when the thawing of the snow begins in the great chain of the Cordilleras, closed in the winter season, thus forming a natural and unvarying boundary. This part extends about 50 leagues up to the sources of the River Diamante. This river and the Latuel, 20 leagues to the south, bring a great quantity of water, and are formed, as is generally the case, from the sources which rise in the highest Cordillera. In

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winter these streams are frozen ; but when the partial thaw takes place in summer, they become impassable through the abundance of water. This fact implies that *this series of torrents will help to determine the true boundary* in all this region. Then comes the Valley of Planchon, which it is necessary to describe in detail. Here, as in the Valley of the Tunuyan, two main Cordilleras are found, which bound the valley to the east and to the west ; the distance between them from north-east to south-east is about 18 leagues, and from the sources of the Rio Grande up to its mouth, south of Malargue Range, from 25 to 40 leagues. These two particular Cordilleras are named Llaetas to the east, and Planchon to the west. At the point where the Rio Grande runs into the River Las Cuevas, where the road goes up to the Planchon Pass, four " fields " are found ; this is the name applied to several valleys formed by various ramifications of the Cordillera del Planchon running from west to east ; the Rivers Valenzuela, Montañez, Yeso, and Los Angeles run down ravines in those valleys, and give their names to the four " fields " referred to. These rivers, carrying a great deal of water, and two or three others are affluents of the Rio Grande, which farther down takes the name of Colorado before flowing into the plain. *It is clear from the direction of the current of these rivers, which have their origin in the main Cordillera del Planchon, that this Cordillera is the true boundary in its whole extent.* According to investigation made in the year 1846, certain land-owners called Giron, residents of Talca, claimed to have a right to the aforesaid " potreros " in the Cordillera, and, instead of exercising it before the Argentine authorities, did it before those of Chile, thus giving the Government to understand that the lands which they claimed were in Chilean territory ; and this incorrect statement, as it appears from what has been said, caused the Chilean Government to intervene. There is no definite information about the territory further south of the Rio Grande, but it is to be supposed

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that it (the boundary) follows in the same direction already referred to. Further evidence, in favour of the summit of the Cordillera of the Andes and the sources on either side being the boundary with the Republic of Chile, is the fact that all the private properties of this province, situated in the interior of the range consider these as the boundary to the west; this fact has never been disputed.

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EXTRACTS FROM A REPORT OF SEÑORES NICOUR AND SANCHEZ ON THE CORDILLERAS 32° 30' S. Lat.

[Translated from an official publication entitled: "*Proyecto de un camino carretero entre San Juan i la República de Chile por el Boquete de los Patos, Ejecutado por los ingenieros D. Octavio Nicour i D. Matias G. Sanchez,*" San Juan, Imp. de D.A. Luna.—Entre-Rios, 51 y 53, 1872].

(Quoted on pp. 231, 979 and 980 of the Statement.)

Extracts from the Note accompanying the Report.

To His Excellency the Minister of the Interior, Don Ramon
Gonzales.

WE have the honour to present to the Government the result of the mission entrusted to us by decree of the 7th of February of the present year, relative to the study of a cart-road to Chile over "Los Patos" Pass.

This study, naturally long and trying, owing to the difficulties presented by the Cordillera, has been much more difficult for us, owing to the almost complete absence of special maps of the country we had to traverse.

Those which exist, still most imperfect, have been of very little help to us.

In order to obtain by personal observations the data which we needed, we decided to commence our work from Chile,

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profiting by our outward journey in order to make a preliminary inspection of the Cordillera. With this object we started from San Juan on the 10th of February, 1872, passing by the ravines of Las Flechas, Pedernal, Durazno, Acequion, Santa Clara, and by the high and well-known passes of Espinacito, Portillo and Cuzco.

This route completed the study of all the passes of the Cordillera starting from San Juan, a study which had been partially made before by Señor O. Nicour in his journeys of inspection for the improvement of the River San Juan. Once in Chile we employed ourselves in collecting the documents which might in any way illustrate our opinions and complete our preliminary studies, but we only found the work of Señor Pissis upon that Republic.

A copy of it, and that incomplete, was given to us by order of the Minister of the Interior in Santiago as the only official and authorized document which we might consult upon the matter, and it has served us to fix the starting point of our work.

In the absence of better data, we made use on our return of general and scientific methods and of a geological consideration admirably well made, which has permitted us to trace a road, almost the only one of its kind, because it is based on *a true feature of the Cordillera, an accident which may be reproduced at other points, but which is evidently most unexpected here.*

Quoted
p. 232.

This accident is that which has, in our opinion, given origin to the ravine of River San Juan, the course of which we have followed, and in chapters 2 and 3 of our report the explanation will be found of the difficulties which we have overcome and a detailed description of the points we have studied. . . .

If, for reasons which we cannot appreciate at this moment, the pass of Los Patos were not to be utilized as a means of Andean communication, we should consider our efforts sufficiently rewarded by the fact of our having associated our name with

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the *discovery of an important fact*, which like a flattering promise, already offers a not very distant future of prosperity and aggrandisement for these inland settlements. . . .

Considering our mission thus terminated, we have the honour to offer to Your Excellency, the assurance of our special consideration.

May God preserve Your Excellency.

(Signed) OCTAVIO NICOUR.

MATIAS G. SANCHEZ.

SAN JUAN, 28th of September, 1872.

EXTRACTS FROM THE REPORT.

Department of Finance and Industry.

SAN JUAN, 28th September, 1872.

THE preceding note, together with a report and maps referred to therein, to hand; let an acknowledgment of its receipt be made in the agreed terms; let 500 copies of the descriptive part of the said report be printed, and remit the whole of the original to the National Ministry of the Interior.

VIDELA.

RAMON GONZALES.

CHAPTER I.—ROADS TRAVERSED AT PRESENT.

WE have deemed it advisable to give a brief description of the present roads shown in the general map, pointing out the difficulties which each of them offers for the establishment of a cart road, in order to demonstrate better the necessity of adopting the one which we propose as the only one possible.

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The mostly frequented passages from the province of San Juan to Chile are :—

That of Uspallata ;

That of Los Patos ;

That of Copiapó and of other northern provinces of Chile.

That of Uspallata, very high and dangerous, is only suitable for the province of Mendoza, in which it is also situated.

This pass by reason of its great height remains covered with snow during a great part of the winter, it being, however, the most frequented by reason of it being better kept, and because several huts have been built which afford certain safety to the travellers in case of bad weather.

The pass of Los Patos which appertains specially to the province of San Juan, is a little longer in its total extent, although shorter in its general direction.

Although scarcely traced at some points, its passage offers little danger, that circumstance constituting the only difficulties to be met with on it.

It possesses no huts, and for this reason is little frequented.

However, the road of Los Patos at present known under this name, does not permit its being made into a cart road, owing to its sharp and numerous ascents and descents.

Finally, the last, which conveys one to the northern provinces of Chile, although very practicable, is too long and could never be utilized by this province save in such special cases as the exportation of live cattle.

A cart road *for the exclusive use of this province* and serving the general necessities of its commerce, must be within the zone comprised *between parallels 31° and 32° 30'.*

Any other direction would be needlessly much longer.

Of the three roads mentioned the one best answering to this condition is that of Los Patos.

In this manner we reached shortly afterwards the passage of San Martin, where the road *penetrates into the real Cor-*

Quoted
P. 979.

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dillera. Ascents and descents more or less steep, crests and slopes of a precipitous character, offer as many difficulties as they do dangers. *The Espinacito* (little backbone) is crossed at the height of 4,742 metres, and after experiencing similar difficulties for four or five leagues, the Valley of Los Patos is reached. This valley, as it is known, offers plenty of natural pastures, though there are no dwellings, unless a miserable ruined hut can be called so, and a sheltered place for feeding cattle during the good season, when *the Chileans herd thousands of them that they drive back* before the winter settles in.

To cross to Chile from the Valley of Los Patos there are two roads :

1st. That of Cuesta Colorada traversing Valle Hermoso, ascending by the gap of this name and following a series of roads almost impracticable even to pack-mules, till the customs guard-house of Putaendo is reached.

2nd. The one called " Vuelta de los Caminos," much longer than the previous one, but much better, and the only one frequented by caravans and travellers.

Unfortunately this road passes by the Portillo and Cuzco ranges, the slopes of which are equally impracticable for carriages.

In San Antonio one already finds the hired carriages which run to the railway station at San Felipe.

To sum up—from San Juan to the Valley of Calingasta and San Martin Pass, none of the three roads known at the present time allows the establishment of a cart road.

Only the small ravine of Santa Clara, admitting the possibility, would require great work and a considerable increase in the length of the road.

From the passage of San Martin to the Valley of Los Patos there is only one road known, and it does not offer any solution of the problem.

From the Valley of Los Patos to Chile, it is almost impos-

sible to improve the better of the two, for the reasons already expressed, and the other one is so dangerous that it is almost abandoned.

CHAPTER II.—A NEW PROJECTED LINE.

THE considerations of the preceding chapter testify to the necessity in which we found ourselves of looking for a line of communication, different from those already known, and based on entirely new principles.

All the present roads cut transversely *the several ranges of the Andes*, passing over considerable heights, which, besides the difficulties peculiar to the nature of the ground, also present the inconvenience of being exposed to terrible winds and to snows which obstruct them almost completely.

Such are the technical considerations which have led us to adopt the tracing which we propose and which corroborate the opinion which we formed some time back as to the practicability of a road of easy grade by Los Patos Pass.

If the local maps, very imperfect as yet, are consulted, it will be seen that the great Cordillera separates into distinct parallel ranges running from north to south.

The eastern or Argentine Cordillera, more elevated and irregular, is cut in several directions by ravines where numerous streams have their course.

Quoted
p. 979.

The Cordillera on the side of Chile, though *it is lower*, is more continuous and unbroken, as *it forms the line of the water-parting between both Republics, and on this account has been selected as the frontier line.*

Thus what causes the actual road to be long and difficult is *that it has to pass over the eastern Cordillera* before getting to the western.

There is, further, a notable circumstance connected with

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this point, and it is that *the Valley of Los Patos is to be found precisely between these two Cordilleras and the waters there carried by the River San Juan proceed from the second Cordillera of the West.*

The great Cordillera of the East is thus cut open by a large and deep gorge, which beginning to the east of the valley allows the waters of the Western Cordillera to get across it completely, so as to flow down the Argentine slope as far as the Valley of San Juan.

Quoted
p. 980.

These considerations, which are the result of our first inspection of the Cordillera on our journey to Chile, have led us completely to abandon all the roads traced up to now, in order *to devote ourselves only to ascertaining the origin of the waters of the Valley of Los Patos which form the River San Juan and the manner in which they traverse the Cordillera*, persuaded, as we were, that by following their course *a line of continuous descent* would be obtained at a constant minimum of height, which constitutes a most important consideration in mountainous regions.

Quoted
p. 980.

We soon afterwards verified that :

1st. The waters of the River San Juan proceeded from the western Cordillera, from a swamp to be found on the summit of the said Cordillera, on a gap lower than those already quoted.

2nd. The waters follow an almost regular declivity without any waterfall or any notable feature.

3rd. The bottom of the ravine through which the river flows is in all its parts sufficiently wide to permit the construction of a cart road.

4th. The course of the river, in spite of its numerous windings, is even shorter than the direct routes of the roads which pass by *the crest of the Cordilleras.*

5th. The river which thus has its origin in the *summit and heart of the Andes*, rises, however, *at a low point* and reaches the city of San Juan, traversing throughout its course lands fit for cultivation.

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6th. The course of the river is entirely sheltered and much more temperate than the rest of the adjacent points of the Cordillera, thus enjoying exceptional conditions against the action of the winds and of the snow, and permitting, if needful, a passage all the year round.

Having thus at our disposal on the Argentine side a stripe of land on which we could project a practicable road, it remained for us to find out if we could find the same on the Chilean side.

We have said (Chapter I.) that the exit from the Valley of Los Patos could be made by Valle Hermoso, but that the road was almost impracticable. We then applied on this side the same considerations as on the Argentine side, studying the River Aconcagua which passes by La Guardia and San Antonio that is to say, where the Chilean cart roads commence.

Going up this river and carefully studying its bed, we have seen that one of its affluents took us to the same gap which gives origin to the River Los Patos, and although more difficult than the latter, was, however, practicable.

Therefore the problem was geographically decided; the project which we present will show how we have decided it practically.

To sum up :

Amongst the numerous mountain chains which form the western Cordillera there exists *a low point which is nevertheless a crest*. This point gives origin to two watercourses, one descending westward to Chile, the other flowing eastward to irrigate the Argentine territory, *owing to an immense fracture in the great eastern Cordillera*.

Quoted
p. 980.

In a word, the traject of these two water-courses offers a continuous channel wide enough to allow the building of a road, and all the region thus enclosed offers a much more bearable climate than any other in the neighbourhood, since there are valleys which are inhabited all the year.

Upon these bases our project has been founded.

CHAPTER III.—DESCRIPTION OF THE LINE STUDIED,—NATURE OF THE GROUND,—DIFFICULTIES OF ITS EXECUTION.

Departing from the rule observed until now by the majority of the geographers who have paid attention to this part of the Cordillera, we have accepted as the Chilean-Argentine boundary line the one passing by the pass of Valle Hermoso, which is the starting point of our work.

Quoted
p. 231.

As a rule this line is made to pass by the Donoso [Ansilta], Mercedario, Ramada, and Aconcagua peaks, *which correspond to that of the greatest altitude of the Cordillera.*

We, following a more general and universally adopted principle, make it pass by the water-parting line of the two Republics different, in this case, and much lower and more to the west than the former.

The theory we advance upon the especial configuration of the Cordillera in this part, will help to explain the *reason for this selection*, and prove at the same time the *inconvenience of the other*.

How could the fact be explained that a watercourse *having its origin on the western slopes of a Cordillera* should flow by its eastern slope? The Rio del Volcan [River Penitentes in Chilean Map, Pl. III.], the stream of Vuelta de los Caminos [River Teatinos], and the Yeseras stream [Patillos stream], which descend from the summits of Aconcagua, Ramada, and Mercedario, which belong to the Argentine Cordillera, flow to the west of this Cordillera and join their waters in the Valley de los Patos, more than 1000 metres below the level of its crest line. How could these waters have passed to the eastern slope of this great eastern Cordillera if not by the great breach in it?

Quoted
p. 980.

This curious phenomenon, which we shall see verified further on, when we study the bed of the river, by numerous observations based on an absolute scientific truth, has guided

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us on our return, inspiring us with confidence to start in a completely new direction, in spite of the entire lack of positive data in so difficult and completely unknown a land.

Thus *the selection of the line of the greatest heights would have the drawback of leaving the Valley of Los Patos and Valle Hermoso in Chilean territory although they are irrigated by Argentine waters and therefore should be Argentine territory.*

Quoted
pp. 231
and 232.

Señor Pissis who has made, by order of that Government, the map of Chile, the only complete one we know of the Cordillera and which is really of scientific importance and based on geodetic calculations, is in accord with us on this point, and *following the same principle as ourselves*, makes the frontier line pass by the same gap.

Starting from the gap of Valle Hermoso, the projected line descends to the valley of this name over a series of hills which form the eastern slope of the Chilean Cordillera, and enters into the Valley of Los Patos which it traverses in all its length until it reaches Cerro Negro.

This project presents no serious difficulty.

The flat and almost horizontal land in the valleys is good and accessible on the slopes and hills whereby it passes.

When crossing the Valley of Los Patos the road cuts the river, and its crossing, although easy, is inevitable at this point in order to reach its right bank, which it does not abandon until reaching the Valley of Zonda. This is the only time that the road cuts the river, and it is advisable to take note of this circumstance which constitutes one of the bases and particulars of our tracing, because it is of great importance in the present case.

The River Los Patos which receives in this valley the waters of three important affluents, is at this point still at a very short distance from its source, and its bed, enclosed between not very deep banks, does not offer difficulties to its crossing. But, as it proceeds in its course, it receives the waters of numerous

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affluents which considerably increase its size and render its passage dangerous. Although hardly to be feared in ordinary times, it turns into a real torrent during the rainy season, and its powerful current drags down enormous rocks which render its passage impossible.

This circumstance, together with the breadth of its bed, generally great, and the insurmountable difficulties to transportation in the Cordillera, would make the building of bridges very difficult and expensive; economy being precisely one of the positive advantages of our tracing, which represents a genuine economy in the project.

From Cerro Negro the road stretches south and east, following the tortuous ravine of the river until reaching the valley of the *Invernadas*.

This ravine presents, at the exit of Los Patos Valley, *the aspect of a deep canyon formed in the very heart of the Cordillera.* Quote
p. 232. Its enormous walls which seem recently separated, with a similar inclination of 45° to 50°, its almost perfect sides, the enormous boulders which border their bases and their identical nature and external appearance, give rise to the presumption that they owe their existence to a great geological cataclysm in this part of the Cordillera, which, when it took place, *opened this deep canyon in the already existing rocks.*

It would be difficult to explain this phenomenon by attributing it solely to the action of the water of the river, for there are no traces of the marks which its constant action must have left on the rock. However, there is no doubt that the waters have completed the work of the phenomenon to which we have referred, by levelling and enlarging the bottom of the ravine in the softer parts, as may still be observed by the sandy deposits and by the great boulders to be found on their slopes at different heights.

The road may be made in this section at whatever height above the river, by cutting the slope of the ravine, and partly

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building an embankment, thus making its construction comparatively cheap.

From the swamp of Calderon onwards, the ravine commences to open more, presenting from time to time some plains and banks of easy access.

However, it still runs along several slopes and it goes through many rocky places, thus increasing considerably its cost.

At the entrance of the Valley of the Invernadas it is necessary to cut through a hard rock of a clayish nature, which almost intercepts the passage.

After passing the Volcan river the road goes in a northern direction over an almost flat slope, not offering notable difficulties.

The Invernadas Valley of some 10 kilometres in length is situated precisely to the east of the *Valley of Los Patos*, and it can be easily cultivated in the greater part.

Although still *in the centre of the Cordilleras*, its inconsiderable height and the elevation of the Cordilleras which enclose it protect it from the great storms, making it inhabitable, as is proved by its fairly good vegetation and a hut of former herdsmen, now a shelter of Guanaco hunters who spend the greater part of the year there.

Further on, the ravine becomes narrow again until it reaches the Pampas of Toro and Cortaderal.

This part presents no difficulty, other than a small portion of ravine at the exit of the Invernadas, where the road has to cut the almost perpendicular slope which dips into the very bed of the river.

To reach the Valley of Carrizal the ravine of the Corredores has to be passed, longer and almost as difficult as the previous one. The road passes by the slopes, sometimes going through sheer rock and at other times making decided descents in order to maintain a convenient height above the river.

The Valley of Carrizal does not present any difficulty what-

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soever. Almost horizontal and covered in its greater part with wild grass, it would be of easy cultivation, and offers a magnificent locality for pasturage.

The River de las Leñas joins it to the west of River Los Patos.

The stretch which follows as far as the passage of San Martin is also difficult, especially at the exit of Carrizal. As in the ravine of the Corredores, the road at times goes through sheer rock and at others over big terraces. This is one of the most expensive sections, by reason of the trachytic nature of those rocks. Here we have a similar example to that of Los Patos which shows *the fracture of the rock to give passage to the river.*

It is well known that rocks of igneous nature are extremely compact, forming at times mountains of one solid mass without any interstices or joints. This occurs in the ravine of which we are speaking, which seems as if carved in a rock of this kind.

Its walls, perfectly even and perpendicular, do not retain any traces whatsoever of the action of the waters which must have eroded them during an inconceivable length of time in order to have cut them so deeply. On the contrary, there are still to be seen the lines of superposition of the different igneous strata in the shape of curved concentric layers corresponding visibly from one to the other wall, and showing that the rock must have been broken and separated in the form found at present by a very powerful subterranean action.

The great Cordillera of the centre to the west, and that of Tigre to the east formed at another period an immense valley to the former existence of which the Invernadas and that of the passage of San Martin still testify.

The bottom of the valley, formerly very wide, must have narrowed through the action of the snows and waters, which, slowly undermining the slopes of the Cordillera, have formed

the great ravines and hills now occupying almost its entire centre.

The sedimentary nature of these hills is proved by the parallelism of their strata, and their original position must have naturally been horizontal.

Now, the inclined position which may at present be observed in those strata, with a north-eastern general and uniform direction, proves that the bottom of the former valley has been uplifted by some eruptive mass which at the time of surging broke or inclined its strata, thus forming the ravine of the river which at present occupies its bottom.

This mass we find exactly in the great trachytic rock we are dealing with, towards which converge the strata from all the adjacent hills and whose superior position and visibly calcinated aspect also prove the modern and volcanic nature of this rock.

Therefore, we not only consider ourselves acquainted with the phenomena which must have given origin to the ravine of the river, but also its point and manner of action, thus establishing the possibility, if not the accuracy, of the theory which we have advanced.

From the passage of San Martin onwards to the Andarivel, the road runs over a slope or high precipice, slightly undulated and generally soft. Some aqueducts for the rainwaters are the most notable works [in the project].

To reach the Calingasta Valley there is a ravine which, although not narrow, is somewhat tortuous, often compelling the road to cut the rock, in order to make use of the cliffs which enclose the river in its greater part.

The trajet of the Valley of Calingasta formed by the Great Cordillera on the west and the Tontal Range to the east, does not present any difficulties for its construction.

* * * * *

CHAPTER VI.—CONCLUSION.

WE have said that the ravine of the river, the principal object of our survey, has permitted us to trace a road almost unique of its kind, for it is based on a *true feature of the Cordillera*. We believe we have demonstrated this fact.

Now we might add : and almost the only one in its results, for not only have they surpassed all hope relative to the practicability of the cart-road we were projecting, but also because they permit a more general solution of the problem, as happy as it was unexpected.

* * * * *

Neither have we resorted to extraordinary means in order to ascertain the existence of this ravine ; we have simply obeyed, as we have said, *the natural principle by following the direction of a water-course*, and the rare merit of our project consists in having utilized *a work prepared by nature itself from the beginning of time which until now nobody had wished or known how to utilize*.

Quoted
p. 981.

This work is the deep and complete section of the Cordillera which now forms the ravine of the river.

This work is precisely what man would necessarily have had to perform, in order to obtain such a solution of the problem. A gigantic work which science and will combined could never have attempted to conceive or carry out !

And nevertheless *Nature had prepared and offered it*, and he, being heedless, had not even noticed it !

We, who have been the first to have the good fortune of ascertaining its existence, we who have traversed step by step its long and painful road, studying its difficulties, can affirm that if the smoothness of its slopes and the facility of the curves are decisive conditions for the building of any road, there can never be found on the Argentine side and in the region we are

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discussing, another combining those conditions in such a high degree.

And what is even more notable : we *reach by this course the water-parting line across the most gigantic Cordillera of the world*, by a continuous channel almost at right angles with its direction, with an average declivity of 10.50 per mill., almost continuous and uniform without ever exceeding, all along its course, the common and accepted limits. Quoted
p. 981.

This, which may perhaps seem a paradox, is, however, a proven fact deduced from direct observations and professional operations carried out all along the line, and the more important because that slight declivity, technically speaking, makes this ravine adaptable not only for a cart road, but also for a railway.

Finally those results show that the existence of the ravine of the river has been a happy circumstance and really providential for the country.

A happy circumstance, because without it, it would have been difficult, if not impossible, to have selected a practicable road, at least under the conditions proposed by us, *across a Cordillera like that of the Andes, so immense, so rugged, so difficult.*

Only those who have seen its very high summits and deep valleys, its rugged slope and its steep and interminable precipices, only those who have been able to contemplate close at hand its overwhelming ruggedness and its gigantic whole, will be able to form an idea of the difficulties which it presents to the building of any road whatsoever ; and without that circumstance the most decided will and the most resolute mind would have abandoned all hope of achieving the end desired.

It is a real blessing because, owing to it, these cities, apparently condemned to eternal isolation, to ignorance and backwardness, may at last claim the place so unjustly denied to them in the congress of civilization of the world. Thanks to it, the horizon of their future widens and becomes clearer and more brilliant, and the day of reparation approaches.

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The giant, which for many centuries had been the impregnable barrier to their progress, is to-day sorely wounded and vanquished and impotent, and hastens to give passage to civilization which advances by means of the railroad, and which already knocks at his door claiming place among us.

* * * * *

The application of these principles to the results previously mentioned, allow us to reach the following conclusions :

1st. That the ravine of a river is the proper and preferable way for a cart road from San Juan to Chile by Los Patos Gap.

* * * * *

2nd. *That the valley of the river is the necessary and inevitable way for a railroad from San Juan to Chile by the Los Patos Gap.* That in our judgment it would be possible, technically speaking, to build a railroad of slight inclines and curves of sufficient radius from San Juan *to the line* following the route of this ravine.

* * * * *

SAN JUAN, November 10th, 1872.

TO HIS EXCELLENCY THE MINISTER OF THE INTERIOR,
DON RAMON GONZALES.

We shall recall what we have found : that the course of the River San Juan offers a continuous channel of a minimum general declivity (10.50 per mill.) almost uniform, and that the ravine in spite of its sinuosities presents sufficient room to build curves, although mostly of a small radius. That the depth and enclosed nature of this ravine, especially *in the centre of the Cordillera*, offers also a sheltered route better protected than any other against the danger of the winds and storms.

That all along the route are found lands fit for cultivation, such as the beautiful valleys of Calingasta, Carrizal, Invernadas, Valle Hermoso and Valley of Los Patos, which with the advantages of a railroad may become in some way important centres of production.

These results, therefore, enable us to affirm that the inter-oceanic railroad may be established in its Andean-Argentine section through the gap of Los Patos with slight declivity and curves of sufficient radius, following the course of the ravine of the River San Juan, which by reason of its declivity and other advantages mentioned, will generally offer exceptional and advantageous conditions for a railroad in the Cordillera.

* * * * *

If there be taken into consideration the slight difference in the general direction of the two possible routes for a railroad from San Felipe to Cuyo (that of Uspallata and that of Los Patos) on the Chilean section, enclosed within a narrow zone almost at right angles with the general direction of the Cordillera, it may be seen that given the constant height of its point of arrival (San Felipe) the question is theoretically reduced to the investigation of the following two facts :—

Either to the determination of the lowest point of the Cordillera, *which corresponding to the meeting point of the general Chilean and Argentine declivities* may allow within the least possible distance the smallest ratio in that declivity.

Or to the discovery of a certain route, whose sufficient development may offer the same conditions of declivity, accepting any height for the point of intersection [of the declivities] for the passage of the Cordillera.

Now, the height found for the gap of Valle Hermoso which corresponds to that point in our line, which is inferior to all the similiar points in the zone with which we are dealing, according to the best information, the length and

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declivity found for the bed of River Putaendo, answer sufficiently to the first of those conditions and decide the problem in the most favourable manner.

If, therefore, some other solution could be found, it would certainly be included in the second of those conditions, which at least, the declivity being similar, would have the notable disadvantage of a longer route.

On the other hand, the steep general declivity of that ravine, which constitutes its greater disadvantage compared with the Argentine section, is not peculiar to this route, because, as the line has to descend in Chile to a much less altitude (San Felipe) than that of its starting point in the Argentine Republic (San Juan) in almost one-third of the distance traversed, to reach its maximum height (the line), that steep declivity would be necessary and inevitable in all the routes cutting the Chilean Cordillera in this direction.

* * * * *

SYNOPTICAL TABLE OF THE HEIGHTS OF THE PRINCIPAL PEAKS
AND IMPORTANT POINTS OF THE CORDILLERA IN THE SUR-
VEYED ZONE, IN METRES ABOVE THE LEVEL OF THE SEA.

Names of Places.	On the line.	Outside the line.	Authorities.
CHILEAN SECTION			
Valparaiso	0.00		Starting point of the observations
San Felipe	609		Nicour and Sanchez
"	657		Pissis
Santa Rosa		818	"
Alto de Putaendo		2315	"
S. Antonio de Putaendo	725		Nicour and Sanchez
Juan Rosas	948		"
Cuesta de la Jarilla . . .		1382	Pissis
Resguardo	1191		Nicour and Sanchez
Pico de la Jarilla		2481	Pissis
Cerro de Orolonco		2118	"
Las juntas de los Rios. . .	1520		Nicour and Sanchez
Rincon	2207		"
Portillo de la Petaquita .	2313		"
Paso de la Colorada . . .	2369		"
Cajon de Videla	2850		"
Los Tambillos	2848		"
Portillo de Valle Hermoso	3660		"
ARGENTINE SECTION			
Portillo de Valle Hermoso	3637		Pissis
Ciénago	3380		Nicour and Sanchez
Valle Hermoso	3142		"
V. de los Patos (casucha)	2882		"
Paso del Cerre Negro . . .	2840		"
Base del Espinacito . . .		4042	"
Paso del Espinacito . . .		4742	"
Mercedario (pico)		6798	Pissis
Aconcagua (pico)		6834	"
Ciénago de los Burros . . .	2796		Nicour and Sanchez
Quebrada Colorada	2640		"

SYNOPTICAL TABLE—*continued.*

Names of Places.	On the line.	Outside the line.	Authorities.
Invernadas	2553		Nicour and Sanchez
Cortaderal	2366		"
Carrisal	2286		"
Paso de San Martin . .	2205		"
Andarivel	2154		"
Rio Colorado	2040		"
Entrada del V. Calingasta	1983		"
Casa de Donoso	1800		"
Casa de F. Cano	1765		"
Sorocayense	1740		"
Hilario	1710		"
Casa de Sarmiento . . .	1690		"
Q. de la Alcaparrosa . .	1660		"
Rio Castaño	1610		"
Quebrada de la Majadita		2280	"
Ciénago del medio . . .		2660	"
Las Cabeceras		2943	"
Paso del Tontal		3800	"
Las Cuevas		3178	"
Paramillo		3344	"
Maradona		2128	"
Colorados		1464	"
Ladera del Cura	1320		"
Pachaco viejo	1305		"
Salto	1092		"
La Isla	1017		"
Valle de Zonda	894		"
Horno de Furque	822		"
Puyuta (Capilla)		786	"
San Juan	767		"

NOTE.—The difference of height between San Juan and El Portillo (the line) is 2893 metres.

Distance, 287,500 metres.

Average declivity, per metre 0.015 m.

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PROJECT OF LAW TO FIX THE BOUNDARIES OF ARGENTINE TERRITORIES IN 1871.

[Translated from "*Memoria del Ministro de Relaciones Exteriores de Chile*,"
1873, pp. 191 to 194.]

(Quoted on page 233 of the Statement.)

NATIONAL (Argentine) CONGRESS.—Session of 1871.—Senate.—
Order of the Day, No. 22.

BUENOS AIRES, *September 24*, 1871.

Communication from the Boundary Commission upon this
matter.

HONOURABLE SIR,

The Boundary Commission, after numerous conferences in which the several questions respecting its functions were brought up, being convinced that it is impossible at present to fix the details of the boundaries of each one of the 14 provinces which constitute the Argentine nation, owing to the lack of an authentic topographical chart of the territory and coasts of the Republic, an extensive and costly, but (for this end) indispensable preliminary work ; considering on the other hand that there is no pressing haste, as also that the *status quo* of the provincial boundaries may be continued without any inconvenience, so long as the questions do not arise which Congress

has to settle, and that in reality the only matter urgent for the needs of the situation is the declaration of the territories destined to be occupied and settled by the nation, a measure which is indispensable, above all for the necessities of the service and safety of the internal frontiers, has considered that the only thing possible and permissible within its power was the drawing up of a project of law of the national territories with the perfection compatible with the circumstances in which the commission finds itself.

By these means the special function of the Commission is also fulfilled; because, once the national territories are determined, the result would be the boundaries between the provinces and the nation, leaving the inter-provincial boundaries till such time as Congress may be called upon to legislate constitutionally thereon.

PROJECT OF LAW.

The Senate and the House of Deputies, etc.

Article I.—For the object of the safety of the internal and external frontiers, settlements, colonization, administration and sale of public lands, according to the laws of National Congress, the following Argentine territories are declared to be national or subject to the exclusive jurisdiction of the national authorities, to wit :

1.—In the north, the national territory comprised between the River Pilcomayo to the south-east; the River Paraguay to the east, the frontier of Bolivia to the north, and the province of Salta to the west, including the adjacent islands included, under the name of *Territory of the Pilcomayo*.

2.—The national territory comprised between the boundary line with Bolivia to the north; the Rivers Pilcomayo, Paraguay, and Bermejo, and adjacent islands to the north-east, east, south and south-west, exclusive of the settlements of the province of Salta on the River Bermejo, so long as they are not ceded

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to the nation, and the frontiers of the latter province to the west, under the name of *Territory of the Bermejo*.

3.—The national territory comprised between the banks of the River Bermejo to the north, a line drawn from Palo-Santo, a point 15 leagues south of the Rivadavia colony on the Bermejo, and another point on the River Salado on the $26^{\circ} 15'$ S. lat., save the rights of possession of the province of Santiago ; the banks of the River Salado to the south-west ; another line drawn from Fort Constitucion upon the said River Salado as far as the point of discharge of the Arroyo del Rey into the River Paraná to the south ; its eastern boundary being the right bank of the Rivers Paraguay and Paraná, under the name of *Territory of the Gran Chaco*.

4.—To the east, the territory comprised between the meridian 58° west of the meridian of Paris ; to the west, after the cession of the said territory by the province of Corrientes, the River Paraná to the north-west, the River Iguazú to the north ; the frontier of Brazil to the east and the River Uruguay to the south-east and south, under the name of *Territory of Misiones*.

5.—In the south the territory comprised between a line traced from the banks of the River Colorado, passing over the western extremity of the Ventana range, following the meridian until it meets parallel 34° , which separates it from the provinces of Santa Fé and Córdoba, until it reaches the Lechuzo or Tres de Febrero ; and thence descending the meridian as far as parallel 35° , which separates it from the province of San Luis, until it meets the bank of the River Nuevo to the north ; the River Nuevo, which separates it from the province of Mendoza, as far as the River Diamante, and thence the River Chadi-leubu, Lake Urre-Lauquen and a line between the latter and the left bank of the River Grande or Colorado, under the name of *Territory of La Pampa*.

6.—The territory comprised between the River Grande Colorado to the north and the River Negro to the south, having

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for its boundaries *the water-parting line on the summits of the Andes* and the banks of the River Neuquen to the west and south-west ; and to the east a line traced at 40 leagues from the coast of the Atlantic as far as the northern bank of the River Negro, which separates it from the possessions of the province of Buenos Aires, under the name of *Territory of the River Negro*.

7.—The territory comprised between the Rivers Negro and Limay, to the north and north-west, and the River Chubut to the south, having for its boundaries to the west *the water-parting line in the Cordillera de los Andes* ; and to the east the coasts of the Atlantic Ocean, including the adjacent islands, under the name of *Territory of the Chubut*.

8.—The territory comprised between the River Chubut on the north and the River Santa Cruz on the south, having as its boundaries *the water-parting line in the Cordilleras de los Andes* to the west, and the coasts of the Atlantic, including the adjacent islands to the east, under the name of *Territory of Patagonia*.

9.—The territory comprised between the River Santa Cruz to the north and the waters of the Straits of Magellan, including Tierra del Fuego and adjacent islands to the south, it having as boundaries to the west *the water-parting line on the summits of the Patagonian Andes*, and the coasts of the Atlantic Ocean, including the adjacent islands on the east under the name of *Territory of Magallanes*.

10.—On the west and on the slope of the Andes, the territory comprised between the River Neuquen to the north, north-east and east ; the River Limay to the south-east and south, and *the water-parting line on the summits of the Andes* to the west under the name of *Territory of Limay*.

11.—The territory comprised between the River Diamante which separates it from the Province of Mendoza to the north, the combined Rivers Diamante and Atuel to the north-east ;

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the Chadi-Leubu and a line traced from the lake Urre-Lauquen to the River Colorado or Grande which separate it from the Territory of La Pampa to the east, the River Grande or Colorado to the south and *the water-parting 'line on the Cordillera de los Andes* to the west, under the name of *Territory of the Andes*.

Article II.—The boundaries fixed by this law for the national territories specified in the preceding paragraph, must be considered as the legal boundaries for the bordering provinces.

Article III.—The Executive of the Nation will proceed within the shortest possible time to carry out the exploration and measurement of the whole or part of the national territories determined by this law, the result of these operations to be presented to Congress.

Article IV.—The colonies and private establishments to be found within the boundaries of the territories declared as national will be subject from the moment of the sanctioning of this law to the exclusive jurisdiction of the national authorities and of the laws which the Congress of the Nation may pass in this respect.

Article V.—Let it be communicated to the Executive, etc.

Office of the Commission, September 21, 1871. (Signed)
B. MITRE, B. VALLEJO, JUAN HERRERA, JOSÉ MANUEL ARIAS,
J. E. TORRENT.

The Commission has the honour to append to the present project of law a geographical map of the Republic, in which the various national territories projected therein are marked with red lines. (Signed) MITRE, VALLEJO, HERRERA, ARIAS, TORRENT.

No. 24.

EXTRACTS FROM THE GEOGRAPHICAL WORK OF THE GEOGRAPHER PISSIS.

[Translated from the "*Jeografía física de la República de Chile*" (Paris, 1875).]

(Quoted on pages 279 and 1085 of the Statement.)

HYDROGRAPHY.

(P. 216) All the watercourses of Chile rise at a short distance from the coast; *they have for boundary the summit of the Andes*, and their system, consequently, is subordinate to the climatic conditions of the regions which they traverse. (Quoted
p. 279.)

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(P. 218) Chile has two kinds of hydrographical regions or basins: *the large basins which extend from the sea to the Cordillera de los Andes*, and the smaller ones which collect the waters flowing from the western slope of the Maritime Cordillera. The large basins known up to the present time, that is to say, those comprised between 27° and 42° of south latitude, are seventeen in number. *In all the part extending southwards of this last parallel, there can only exist rivers of small importance to the west of the Andes, because the sea washes the foot of this Cordillera*, and must receive the torrents which descend from it before they can join to form great watercourses; only to the east, in the unexplored lands of Patagonia can the large rivers exist.

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(P. 234) THE BASIN OF THE RAPEL extends between lat. $33^{\circ} 54'$ and 35° ; on the north it is enclosed by the transverse Cordillera which branches off from the Cordilleras de la Compañia and which stretches towards the Angostura de Paine, then by the mountains of Aculeo and of Tantehue, and finally by a branch of these mountains which descends southwards to San Vicente. *Its eastern boundary is the summit of the Andes from $34^{\circ} 05'$ as far as 35° ; lastly it is enclosed to the south by a ramification of the Andes which starts on 35° and stretches as far as the mountains of Huelmu, thence by the anticlinal line of the low hills of Teno, which passes by Santa Cruz, Pumanque San Miguel and Hidalgo. The area of this basin is 16430 square kilometres.*

Quoted
p. 279.

THE BASIN OF THE BIO-BIO.

(P. 246) The Bio-Bio is the largest river of Chile, for not only does it traverse an extensive region, but it also receives numerous affluents. The basin which feeds it extends between $36^{\circ} 50'$ and $38^{\circ} 30'$. *The anticlinal line by which it is enclosed starts near Concepcion in the Caracoles Hill; thence it runs towards the mountains of Chiguayanta, of Hualqui and of Florida; it afterwards passes near Tomeco and thence it descends to the plain whence it follows with a slight difference the direction from Pangal to Tucapel. It then ascends the Cordillera de los Andes following the inclined plateau which stretches towards Cerro Negro; thence passing over Calabozo and Polcurra mountains, and meets the summit of the Andes under 37° . From that point it follows this Cordillera as far as south of Lonquimai volcano; it again descends to the plain whence it runs towards the swamp of Lumaco, thence to ascend again towards the Pichi-Nahuelvuta following the summit of the sea-coast Cordillera as far as the northern extremity of the mountains of Coronel. The area of this basin is 20570 square kilometres.*

Quoted
p. 279.

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THE BASIN OF THE VALDIVIA.

(P. 252) The River Valdivia which empties into the bay of Corral in $39^{\circ} 53'$ receives its waters from a fairly large basin which extends from $39^{\circ} 25'$ to the $40^{\circ} 20'$ *formed by an anticlinal line* which follows, at first, the summit of the coast Cordillera from Niebla point to the heights of Maiquilla. Thence it goes to the east, traversing the *plateau of San José*, passing by the summits of the volcanoes Villarica and Quetropillan, whence it follows the summit of the Cordillera de los Andes as far as Cerro Mocho and Lajara [Lanin] volcano; here it takes again, firstly, the western direction until reaching Huitre farm; it follows the heights which stretch therefrom towards Dallipuli, passes a little to the north of Trumao and rejoins the coast Cordillera, the summit of which it follows as far as the mountains of Corral. The area of this basin is 8450 square kilometres.

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(P. 255) THE BASIN OF THE RIVER BUENO is separated from that of the Valdivia by *the anticlinal line forming the southern boundary of the latter*. It is enclosed to the east by the summit of the Andes from Mocho hill to Techado hill. The southern boundary is formed at first by a crest of mountains which stretches from this last point as far as the Punttiagudo and from there to the Osorno volcano. *It then encircles the northern part of Lake Llanquihue and of the swamps of Frutillar*; runs later to the west in the direction of Pargas, and then turns to the north, following the summit of the coast-chain. The area of this basin is 14670 square kilometres.

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BASIN OF THE MAULLIN.

(P. 258) The flat region of Chile ends in the Gulf of Reloncaví and comprises even, to the south of River Bueno, a last and small basin which is that of River Maullin. This basin, the extent of which is only 3990 square kilometres, stretches between

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41° and 41° 40'; it is delimited on the north by a line starting at the point situated to the west of Port Godoi, runs towards the north-east until reaching the parallel of Pargas, and then to the west as far as the swamps of Frutillar; it afterwards encircles Lake Llanquihue up to the foot of the Osorno volcano. The eastern boundary follows the line which passes by this volcano and that of Calbuco and afterwards along the ramification which is detached from the latter and which extends parallel to River Camisas, passing to the west of this river. Finally, the southern boundary is formed by *an anticlinal line running from the heights of Puerto Montt as far as Carelmapu.*

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EXTRACTS FROM THE GEOGRAPHICAL WORK OF DR. H. BURMEISTER.

[From "*Description Physique de la République Argentine*," tome i., Paris, 1876.]

(Quoted on pages 281 and 1147 of the Statement.)

(P. 208) *Quant aux passes des Cordillères*, nous avons déjà parlé des deux plus septentrionales. *La première est la passe de San-Francisco*, que nous avons citée page 184 et décrite page 197. De Salta elle suit la vallée du Rio Guachipas, traverse le Campo del Arenal, soit au nord par la Laguna Blanca, soit au sud par Fiambala, et *franchit le plateau des Cordillères* pour arriver à Copiapó par la vallée de Paipote.

La seconde passe est celle que j'avais choisie par la Quebrada de la Troya, et dont j'ai donné une description détaillée. Elle conduit de Catamarca et Tucuman à Copiapó.

La troisième passe porte le nom de Portillo de Come Caballos et se trouve sous 28° 9' lat. S. Sa route conduit de La Rioja à Copiapó, traverse la Sierra Famatina, *s'élève par la gorge due Rio Jagué au plateau des Cordillères*, en traversant la Quebrada Cortadera et la Quebrada de Peñon. En ce point elle se détourne au nord-ouest et rejoint la vallée du Rio Blanco à la cueva du même nom. Elle traverse le fleuve, s'élève sur le second plateau par le Rio Carnerito, et en atteint le bord au Portillo de Come Caballos. Son altitude est d'environ 4080 mètres. La passe conduit à Jorquera par la gorge du Rio

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Turbio, et à partir de là se confond avec mon itinéraire vers Copiapó. La route est roide et incommode ; souvent on n'y trouve pas d'eau.

La quatrième passe s'appelle Peña Negra et se trouve sous $28^{\circ} 13'$ lat. S. La route part de San Juan en *remontant le Rio Blanco, nommé Rio Vermejo* plus au sud, et traverse le plateau occidental des Cordillères sans toucher le plateau oriental. La passe est très-élevée (5585 mètres) *et conduit dans la vallée du Rio Pulido*, qui vient se jeter dans le Rio Copiapó à Juntas. On peut encore s'en servir en partant de La Rioja et en franchissant la Sierra Guandacol ; mais alors il faut traverser aussi le plateau oriental de Cordillères, sur lequel on arrive par la difficile quebrada du Rio Jagué Chico. On rejoint l'autre route à la Cueva de Pastos Largos.

La cinquième passe conduit au bord des Cordillères dans la vallée du Rio Manflas, par le Portezuelo del Cerro de Potro, sous $28^{\circ} 30'$ lat. S. La route vient de San Juan et se confond avec la précédente jusqu'au bord du plateau occidental des Cordillères. Mais on la considère comme très-difficile, et elle est peu suivie.

Une sixième passe se trouve au Portezuelo de Dona Anna, soit $29^{\circ} 36'$, avec une altitude de 4447 mètres. *Elle part de la vallée du Rio Jachal en suivant son dernier bras le plus au sud, et redescend de la crête des Cordillères dans la vallée du Rio Coquimbo* ; mais elle n'est guère suivie que par les troupeaux de bétail et leurs conducteurs. Il existe encore ici plusieurs autres passages également praticables entre $29^{\circ} 36'$ et 30° lat. S. Ils sont très-rapprochés les uns des autres et conduisent tous de la vallée du Rio Jachal dans la vallée du Rio Coquimbo. Le plus septentrional porte le nom de passe de Dona Anna, le plus méridional celui de Portillo de las Vacas heladas.

La septième passe est celle du Rio de los Patos, placée entre les vallées des affluents du Rio de San-Juan et le Rio de Limari

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au nord, et celle du Rio Aconcagua au sud. Au nord la vallée du Rio de Castaño s'élève à la crête des Cordillères, au sud celle du Rio de los Patos. Les passages de la vallée du Rio de Castaño prennent le nom de Portillo de Vincente el Portillo del Valle Hermoso; le premier se trouve à 4120 mètres, le second à 4280 mètres. Le passage principal est celui du sud, par la vallée du Rio de los Patos, et on l'appelle spécialement Camino de los Patos. La route quitte la rivière loin au-dessous de sa source et franchit par une gorge latérale *un chañon secondaire des Cordillères*, dont l'altitude est de 4238 mètres. On redescend encore dans la vallée du Rio de los Patos, et en suivant une gorge latérale on atteint le Portillo del Valle Hermoso *a la crête des Cordillères*, dont l'altitude, d'après la carte de Pissis, n'est plus que de 3365 mètres. On descend dans la vallée du Rio Putaendo, qui débouche dans le Rio de Aconcagua à San-Felipe. C'est par cette passe que l'armée de général Martin se rendit au Chili.

Après les deux passes de Patos, on recontre au sud des deux passes de la province de Mendoza, déjà citées. Nous les réunissons sous le nom de passe de Tupungato, comme nous l'avons fait pour celles de la province de San-Juan sous le nom de passe de Patos. Nous n'ajouterons rien de plus ici, ayant déjà fait connaître le nécessaire, pages 203 et 206.

La huitième passe ou passe de Cumbre s'élève à la crête des Cordillères *par le Rio de Mendoza*, et est la plus praticable de toutes.

Entre elle et la passe de Portillo il en existe encore une autre, celle de Dehesa, qui doit être très-difficile à franchir et est à peine pratiquée.

La neuvième passe principale se divise dans la passe de Portillo à l'est et la passe de Piuquenes à l'ouest, et traverse les Cordillères presque sous la même latitude que Santiago du Chili.

Les passes situées plus au sud sont rarement traversées par

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les voyageurs, mais très-fréquentées par les Indiens pillards, et sont peu connues. La dixième traverse près du volcan Maypu, sous $34^{\circ} 2'$ lat. S., et porte le nom de Paso de Cruz de Piedra. *Elle reunit la vallée du Rio Maypu à l'Arroyo Aguarda, source supérieure du Rio Tunuyan.* L'altitude est de 3440 mètres.

Toutes les autres passes sont mal connues ; je vais donc les énumérer en y joignant quelques courtes indications.

Paso de Yeso, *entre le Rio Diamante et le Rio de las Leñas*, au Chili, sous $34^{\circ} 25'$ lat. S., altitude, 2497 mètres.

Paso de Tinguiririca, appelée aussi de Salto, sous $34^{\circ} 45'$ lat. S., altitude, 3,200 mètres. *Elle conduit du Rio Atuel dans la région des sources méridionales du Rio Portillo*, et n'est fréquentée que par les contrebandiers.

Paso de las Damas, sous $34^{\circ} 59'$; *part également du Rio Atuel et conduit dans la vallée du Rio Anduvivel* ; 3000 mètres d'altitude.

Paso del Planchon, sous $35^{\circ} 2'$; deux passages voisins l'un de l'autre sur le côté nord du volcan Peteroa ; *conduit du Rio Salado dans la vallée du Rio Claro*, qui tombe dans le Rio Teno et se reunit avec le Rio Lontué au Rio Mataquito, au-dessous du Curicó. La passe nord del Planchon est à une altitude de 3048 mètres, et un peu plus difficile que la passe sud de 2230 mètres d'altitude, qui est la plus fréquentée. C'est par là qu'on voulait faire passer le chemin de fer de traverse des Andes, sur lequel on trouvera des détails dans la note 37.

Paso del Indio ou de las Tres Cruces, sous $35^{\circ} 28'$, à 2570 mètres d'altitude ; *passe du Rio Grande dans la vallée du Rio San-José*, qui débouche dans la lagune Mondaca.

Paso Invernada ou Campanario, sous $35^{\circ} 40'$; *conduit du Rio Grande dans la vallée du Rio Invernada* que se jette dans le Rio Maule ; son altitude n'est pas exactement connue.

Paso del Maule, sous $36^{\circ} 8'$; altitude, 2,194 mètres ; en passant à côté de la lagune de Maule, elle *conduit dans la vallée de la rivière du même nom.*

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Paso Chillan, sous $36^{\circ} 48'$; encore mal connue.

Paso Antuco, sous $37^{\circ} 30'$, a une altitude de 2,100 mètres, mais franchit un chaînon latéral de 2203 mètres. *Elle conduit du Rio Moncol, sur le côté oriental des Cordillères, à la grande lagune Laja, qui se déverse dans la rivière du même nom.* Les Espagnols, dès 1806, avaient le projet d'y ouvrir une route carrossable ; mais elle n'a jamais été exécutée.

Paso de Villarica, sous le 39° ; conduit, en passant, près du volcan de Villarica, *au lac du même nom, duquel sort le Rio Tolten.* Les Espagnols la fréquentaient comme la plus praticable, et on peut la traverser avec des chars, ainsi qu'Azara le raconte dans son Voyage. (II., 48). Mais elle a été abandonnée dans ces derniers temps à cause des attaques des Indiens. La grande valeur de cette passe vient d'appeler de nouveau l'attention de son côté.

Paso de Riñihue, sous $39^{\circ} 45'$; établit une communication directe entre les lacs des deux côtés des Cordillères, et s'abaisse jusqu'à quelques centaines de metres. Nous renvoyons à la note 34.

(P. 204) Tout le monde sait qu'au sud du point de reunion, près du volcan de Maypu encore en pleine activité, les Cordillères continuent leur cours ; que le Maypu lui-même leur appartient et qu'il a eu autrefois de violentes éruptions. *On sait encore que les Cordillères s'abaissent en s'avancant au sud, que la crête subit de grandes dépressions et est coupée par de profondes et étroites vallées ou cajons. Il existe même une et peut-être plusieurs lacunes.* Un de ces points a été étudié depuis peu. Il se trouve au voisinage de 40° de lat. S., entre le grand lac qui existe au pied occidental des Cordillères, et celui-ci recoit *par la passe les eaux des lacs* correspondants situés au pied oriental. Comme des rivières coulent des deux lacs à la mer, à l'est et à l'ouest, ces cours d'eau constitueraient une communication directe.³⁴

(P. 368) Note 34.—Voir la note de W. Frick sur le lac de Riñihue dans *Petermanns geogr. Mitth.*, 1864, p. 47. Bien que ces renseignements ne soient pas

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complètement prouvés, et que notamment la communication des lacs de l'est avec ceux de l'ouest par un canal navigable repose seulement sur le dire des Indiens du pays, *il semble cependant hors de doute qu'il existe là un passage très-bas. Le Rio de Valdivia sort du lac de Riñihue ; la branche méridionale du Rio Negro doit être en communication avec le lac de l'est mais nous n'avons là-dessus que des présomptions.*

Quoted
p. 1147.

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NEGOTIATION OF THE TREATY OF 1881 BY INTERVENTION OF THE UNITED STATES MINISTERS IN CHILE AND ARGENTINA.

[Translated from "*Memoria de Relaciones Exteriores de Chile*," 1881, pp. 132-173.]

(Quoted on pages 285 to 289 and 299.)

Enclosure A.

Telegram from the U.S. Minister in Chile to the U.S. Minister in Buenos Aires.

Santiago, April 25, 1881. I have received your letter of the 5th of April and accept your ideas. The Government of Chile have no objection to you and myself taking up the matter in order to look for a means of arrangement. If there is any basis which both parties accept, there is no objection to Chile's presenting it as indicated by you.

Could you propose to me any basis?—THOMAS A. OSBORN.

Enclosure B.

Telegram from the U.S. Minister in Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, May 2, 1881. Señor Sarratea addressed to Dr. Saenz Peña some propositions which are recorded in the following telegram:

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Valparaiso, March 8, 1881. I have received your letter by the *Galicia* and telegram of yesterday. I should have preferred not to take any step before receiving an answer to my letters of the 8th, 10th, 14th and 24th ultimo, and before knowing Señor Irigoyen's ideas. Complying with your wishes I venture to communicate to you the terms of agreement which, should they meet with the approval of that Government, would I think meet with the approval of this one. Compromise upon the bases proposed in 1876 by Señor Irigoyen to Barros Arana and which this Government then rejected.—Limited arbitration. Division of the Straits and Tierra del Fuego between the two countries, in conformity to the said bases of compromise of Señor Irigoyen, leaving as matter of arbitration in the Straits, the territory to the east of Possession Bay, and in the continent the territory to the south of the 52° S. lat., which would be the boundary acknowledged between the two countries from the Cordilleras as far as the Atlantic. From north to south the Cordilleras would be the acknowledged boundary as far as the 52° of latitude, the Straits free waters. If upon these bases Señor Irigoyen considers the compromise of limited arbitration to be acceptable, with his reply, I shall push forward my officious action until I am able to communicate to you a definitive result. The times are propitious for reaching as just an agreement as the antecedents and the state of the questions permit, and in any case honourable to both countries. Should my journey thither be necessary or advisable I shall start immediately or await your reply. (Signed) MARIANO E. DE SARRATEA.

Dr. Saenz Peña replied making other propositions which are on record in the following telegram :

Buenos Aires, March 10, 1881.—To Mariano E. de Sarratea.—I received your telegram of yesterday. I believe limited arbitration possible as indicated by you with explanations favourable to both countries, which, if pending question is

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settled, should continue in perfect cordiality. Explanations would be :

1. *Straits neutralized and in order to make this effective, both parties bind themselves not to erect any fortifications on their coasts.* 2. To establish in clear terms your suggestion upon the matter of arbitration. Part of the Straits to be submitted to arbitration from Mount Dinero as far as Punta Delgada, western side of Possession Bay, Fitzroy's chart, 1878. All that part of the Straits to the west of Punta Delgada remains Chilean and to the east of Mount Dinero, Argentine ; mainland (*territorio firme*) shall be submitted to arbitration from Mount Dinero to Mount Aymond and from this point in a straight line as far as 52° to the south and along this parallel as far as the Cordillera. Tierra del Fuego as proposed by Irigoyen. (Signed) LUIS SAENZ PEÑA.

Studying both telegrams the differences are of little importance. It seems beyond doubt that President Pinto was aware of Sarratea's proposition, and that Minister Irigoyen was acquainted with Saenz Peña's proposition. I suggest to you the following. If the Chilean Government maintains the propositions contained in Sarratea's telegram of March 8, above quoted, the Argentine Government will maintain propositions contained in Saenz Peña's telegram of the 10th of March which is also above transcribed, and as there is no material difference, you and I would propose a meeting of the two Plenipotentiaries in this city with our friendly intervention, and I venture to think that in a conference arranged by us, and at which both or either of us might take part, the question would be settled by establishing by mutual accord the bases of arbitration upon the two indicated telegrams. If in that Government there is a friendly disposition, the same exists here also. But it is necessary to act quickly as the Congresses, which will shortly meet in Chile and here, may perhaps make themselves felt in another direction.—THOMAS O. OSBORN.

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Enclosure C.

**Telegram from the U.S. Minister in Chile to the
U.S. Minister at Buenos Aires.**

Santiago, May 8, 1881.—The Government of Chile would be disposed to settle all questions on the following bases :

From the *divortia aquarum* of the Andes, 52nd degree of latitude, a line would be traced as far as meridian 70° of longitude, and from the point of intersection the said line would deviate to the south until reaching Cape Virgins. The region south of this line, excepting Staten Island which would be Argentine, would belong to Chile, and the region to the north to the Argentine Republic. Quoted
p. 286.

This arrangement would be definitive, but should one or both of the parties demand arbitration, a single arbitrator would be appointed, who, taking into account the titles of one or of the other party, would estimate in money the compensations which one party should make to the other, so that if the Argentine Republic has ceded to Chile, by the compromise, territory which should prove not to belong to Chile, the latter would pay the former the sum which the arbitrator should consider as compensation for the territory ceded and vice versa, if it was proved that Chile had ceded territory to the Argentine Republic.

The neutralization of the free navigation of the Straits, and the agreement not to erect fortifications which might prevent it, would be stipulated.—THOMAS A. OSBORN.

Enclosure D.

**Telegram from the U.S. Minister at Buenos Aires
to the U.S. Minister in Chile.**

Buenos Aires, May 11, 1881.—Your telegram of the 8th inst. received. It has been pointed out to me that the proposition contained in it is very different from that made by Señor

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Sarratea with the knowledge of that Government in telegram of March 8. In spite of this and in the friendly spirit with which you and I are animated, I have had a lengthy conference and communicate to you its result. This Government would feel disposed to settle the pending question on the following bases: Straits of Magellan.—The neutralization and free navigation in the Straits to the benefit of the commerce of the world shall be stipulated, as you propose, the erection of fortifications or military establishments on any of their coasts being forbidden. The peninsula of Brunswick, all that part of the Straits to the west of the 70° of longitude and all the territories and islands situated to the south of the Straits and to the west of the said 70° shall be acknowledged as belonging to Chile. The *divortia aquarum* of the Cordilleras de los Andes as far as the 52° shall be acknowledged as the boundary line between Chile and the Argentine Republic from north to south, and from this point to the *divortia aquarum* the boundary line shall run along the 52° as far as its intersection with the 70° of longitude, and from this point of intersection the line shall deviate to the south until it touches Point Dungeness. Staten Island shall remain Argentine as you proposed. The dominion over the whole region to the south of the line mentioned, from 52° to 70°, and Dungeness shall be submitted immediately to the arbitral decision of the President of the United States. The President of the United States will be authorized, when giving his decision, to grant territorial compensations within that part submitted to arbitration, or pecuniary compensation between the contending parties, should he consider that this course would facilitate the solution entrusted to his wisdom. The meridian of Greenwich is the starting point of these propositions. Being interested on my part in facilitating the solution we are looking for, I have requested and obtained a further formula, and the following definitive compromise which would put an end to all

Quoted
p. 287.

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questions, would be accepted: Straits neutralized as you propose. Staten Island to be Argentine as you also propose. A line which starting from the *divortia aquarum* of the Andes, in 52°, would run straight to Point Dungeness shall be accepted as boundary line. Tierra del Fuego and islands shall be divided between the two Republics in conformity with the bases agreed to between Señores Barros Arana and Irigoyen in July, 1876.
—THOMAS O. OSBORN.

Enclosure E.

Telegram from the U.S. Minister in Chile to the U.S. Minister in Buenos Aires.

Santiago, May 18, 1881.—Received your telegram of the 11th. When informing the Government of the compromise contained in the latter part, it was remarked to me that in tracing a line as is proposed, from the *divortia aquarum* of the Andes, in 52°, and extending it in a straight line to Dungeness Point, such line would have to pass at some points over water, thus establishing confusion. If you examine the configuration of the land, in the northern part of the Straits, you will find very pronounced sinuosities which confirm the accuracy of the remark made to me. It is considered here that there is some error in the telegram, and that *the idea of the Argentine Government must be that such a line should always run over the mainland (tierra firme)*, fixing some points at a certain distance from the coast, in the vicinity of Point Dungeness. Explanations are required establishing clearly the idea of the Argentine Government upon this point. Regarding Tierra del Fuego, the Government of Chile wishing to remove all cause of subsequent disagreement by reason of the indetermination of boundaries which would result from the form proposed, consider that a prompt solution could be reached by reserving it entire to this country. The division indicated would give rise,

Quoted
p. 383.

Quoted
p. 288.

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in the opinion of Chile, to confusion of jurisdiction in the future which might disturb the cordial friendship which should unite the two Republics. I have reason to expect that by leaving Tierra del Fuego to Chile and allotting on the northern coasts of the Straits in the vicinity of Dungeness Point, a reasonable strip of land, the question between both countries may reach a prompt and satisfactory solution.—THOMAS A. OSBORN.

Enclosure F.

Telegram from the U.S. Minister in Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, May 20th, 1881.—I have had a conference concerning your telegram of the 18th.

This Government maintains the partition of Tierra del Fuego and Islands, drawn up with Barros Arana in 1876, and cannot engage in a compromise. Respecting the doubt which you have regarding the line which shall start from the 52° in a straight line as far as Dungeness Point, it is possible that if the maps give the sinuosities of the ground with accuracy, the line may enter the water in its prolongation in the vicinity of Watering Place. If it were so, such point would be the dividing point in a compromise; the portion of main territory to the N. and E. of said point would not be Argentine. If all the straight line passes over main territory all the southern part of the line would remain to Chile. The result will be obtained from the scientific tracing since the waters and coasts of the Straits are neutralized. Studying the propositions exchanged, I see that those relative to arbitration are very much alike; according to your telegram of the 28th the Government of Chile would be disposed to end the matter by submitting to arbitration all the region to the south of the 52° as far as 70° and from this degree to Cape Virgin. But they make it a condition to remain in permanent possession of that region,

Quote:1
p. 339.

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binding themselves to grant a pecuniary indemnity should it appear that the whole or part of that region was Argentine, and this Government is disposed to submit the region mentioned to arbitration, but without abandoning it at present, and amplifying its powers to make territorial or pecuniary compensations. I find then that both Governments are agreed in accepting arbitration and as to the region to be submitted to the arbitrator. The only difference is the following :

The Government of Chile suggests that the Argentine Government should immediately give up the region to be arbitrated upon in order to receive pecuniary compensation if they have a right to the whole or part of that region. Argentine Government reply that all that should be decided by the arbitrator. It seems hard that a negotiation in which both parties have been so near, should fall through. It is not considered possible here to modify the propositions of my telegram of the 11th.—THOMAS O. OSBORN.

Enclosure G.

Telegram from the U.S. Minister in Chile to the U.S. Minister at Buenos Aires.

Santiago, May 21, 1881.—Your telegram of the 20th of May received. To-day being a holiday I shall not consult this Government until Monday. Before doing this I wish to call your attention to my telegram of the 9th relative to arbitration. I tried to express myself in clear terms, but I fear that my language has been misunderstood. I said that this Government was disposed to accept a perpetual dividing line between the two countries on the understanding that one or both might request that the question of titles and territories claimed by both be submitted to an arbitrator, and that the arbitrator should determine the amount of the damage which one of them might have suffered by the establishment of such a line. Sum-

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ming up: the proposition would not confine the matter of arbitration to the territories situated to the south of the dividing line fixed, but would include all the territories claimed by both countries. Please inform me if this is the interpretation given there, and whether it is to this proposition that the Government are disposed to adhere.—THOMAS A. OSBORN.

Enclosure H.

Telegram from the U.S. Minister in Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, May 23, 1881.—I have received your telegram of yesterday, the 22nd. The proposition contained in the telegram of the 9th of May could not be understood here in the same manner as there. It has been thought that it had a different sense. Please read Señor Sarratea's telegram, dated March 8, which I transcribed in my telegram of the 30th of April. Sarratea proposed in it two means of arrangement: First, an agreement upon the same bases agreed to between Barros Arana and Irigoyen. Second, a limited arbitration in this form: to divide the Straits and Tierra del Fuego between the two countries in conformity with the bases referred to of the Irigoyen-Barros agreement, and leave as matter for arbitration in the Straits the territory to the east of Possession Bay and, in the continent, the territory to the south of the 52° which would be the boundary acknowledged between the two countries from the Cordillera to the Atlantic. As you may see the arbitration was limited to from the 51° southward. Tierra del Fuego and the Straits were to be divided. Since this previous step had been taken, and since your telegram of the 9th did not say a word respecting the territories to the north of the 52°, it was understood that the region which was to be submitted to arbitration was that which stretches to the south of the said 52°. It could not be expected that propositions to cede

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definitively the whole of the Straits, the Brunswick peninsula, Tierra del Fuego, the whole of the northern coast of the Straits as far as the 52° should be made, and then to submit to arbitration everything that has been a matter of discussion on both sides. My attention has been called to the fact that this Government being desirous that should any arrangement be come to, it should be clear, without obscure terms which might give rise to subsequent difficulties, they found the two propositions contained in my telegram of the 11th of May very explicit. These cannot be modified as I have already stated in my telegrams of the 20th inst., and they are more favourable to Chile than that made by Sarratea.—THOMAS O. OSBORN.

Enclosure 1.

Telegram from the U.S. Minister in Chile to the U.S. Minister at Buenos Aires.

Santiago, May 27, 1881.—As appears from our latest telegrams there is considerable disagreement as to the bases of the arbitration, because the Government of Chile does not exclude any portion of territory from arbitration, and the Argentine Government confines it to a limited extent, excluding all others. In my telegram of the 9th a definitive arrangement is proposed besides arbitration, but only for the purpose of pecuniary compensation in case the arbitrator should fix a line different from that accepted in the compromise: that is to say, should this remain accepted definitively, the question would be reduced to a disbursement of money. It seems to me that the Government of Chile consider it preferable to put an end to the question by means of a direct arrangement which may ensure harmony between the two Republics for ever. To this end I believe that the Government of Chile would accept the following bases of arrangement: Tierra del Fuego and the islands would be divided in conformity with Señor Irigoyen's proposition made

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to Barros Arana in 1876. The point of division respecting the Straits would be the following: from Point Dungeness a line would be drawn which would run overland to Mount Dinero. The line would continue from Mount Dinero, following the greatest elevations of the chain of hillocks which stretches towards the west, until it reaches the height of Mount Aymond. From this point the line would continue as far as the intersection of 52° of latitude with 70° of longitude, and from this point would continue in the direction of the 52° as far as the *divortia aquarum* of the Andes. The neutralization and free navigation of the Straits, and the agreement not to erect any fortifications preventing either of these would be stipulated. I believe that this arrangement avoids difficulties on both sides and will put an end to all questions between countries destined to maintain the best relations.—THOMAS A. OSBORN.

Quoted
p. 288.

Enclosure J.

Telegram from the U.S. Minister at Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, May 31, 1881.—Official.—Your telegram of the 28th received. In view of the difficulties which you find in establishing arbitration I have placed the question on the road to a direct arrangement. I have had a lengthy conference because I believe it will be agreeable to our Government that we should exert ourselves in removing the small differences to which the question is reduced. The partition of Tierra del Fuego and islands will be accepted in the manner you indicate, in conformity with the Irigoyen-Barros Arana proposition of 1876. The neutralization and free navigation of the Straits with the agreement not to erect fortifications or military establishments shall be stipulated, as you also indicate. It is understood that this agreement is absolute, as has been the custom

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between nations, when establishing a conventional neutralization : Black Sea, Treaty of Paris ; Danube, Treaties of St. Stefano and that of Berlin, and it has thus been established in similar cases owing to the fact that there is no need of fortifications and military establishments on the coasts of the neutralized seas, rivers and channels. Respecting the partition which you propose for the mainland, I am convinced that (it would be accepted ?) in view of our good offices in connection with both Governments, although this Government hesitated very seriously in accepting the said partition, I have at last obtained their assent to it in order to procure peace and a probable arrangement of all possible difficulties. The partition I indicated I repeat here for the sake of greater clearness : from Point Dungeness a line would be traced which would run overland to Mount Dinero. The line shall continue from Mount Dinero following the greatest heights of the chain of hillocks which stretch towards the west until it reaches the height of Mount Aymond. From this point the line shall follow as far as the intersection of the 52nd degree of latitude with the 70th of longitude and from this point it shall follow in the direction of the 52nd degree as far as the *divortia aquarum* of the Andes. Therefore, all the conditions which you propose will be accepted. If you can obtain that this proposition be made officially by the Government of Chile and you communicate it by telegraph, I shall hand it to the Minister for Foreign Affairs and I am sure that I shall obtain his assent regarding it.—THOMAS O. OSBORN.

Enclosure K.

The Minister for Foreign Affairs of Chile to the U.S. Minister in Chile.

Santiago, June 3, 1881.—Sir,—The noble and spontaneous efforts which your Excellency and your honourable colleague

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at Buenos Aires have been good enough to make with the object of removing the disagreements existing between Chile and the Argentine Republic, by reason of the protracted boundary question, have up to the present, as your Excellency is aware, given a result which allows of a happy ending being expected.

Those same efforts being seconded on our part, I beg to request the friendly aid of your Excellency with a view of bringing to the knowledge of the Argentine Government the following bases of agreement which answer, as I believe, to the ideas recently expressed by both Governments.

“ 1ST BASIS.

The boundary between Chile and the Argentine Republic is from north to south as far as the 52nd parallel of latitude, the Cordillera de los Andes. Quoted
p. 289.

The boundary line shall run in that extent over the highest summits of the said Cordilleras which divide the waters.

The difficulties that might arise owing to the existence of certain valleys formed by the bifurcation of the Cordillera, and where the water-parting line should not be clear, shall be amicably solved by two Experts appointed one by each party. In case they should not come to an agreement, a third Expert appointed by both Governments shall be called in to settle them.

A Minute of their proceedings shall be drawn up in duplicate, signed by the two Experts, on those points upon which they should be in accord, and also by the third Expert on the points decided by the latter. This Minute shall have full force from the moment it is signed by the Experts and it shall be considered stable and valid without the necessity of further formalities or proceedings. A copy of such a Minute shall be forwarded to each of the Governments.

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2ND BASIS.

In the southern part of the continent and to the north of the Straits, the boundary between the two countries shall be a line which, starting from Point Dungeness, shall be prolonged by land up to Monte Dinero ; from this point it shall continue to the west, following the greatest altitudes of the range of hillocks existing there, until it touches the hilltop of Mount Aymond. From this point the line shall be prolonged up to the intersection of the 70th meridian with the 52nd parallel of latitude, and thence it shall continue to the west coinciding with this latter parallel, as far as the *divortia aquarum* of the Andes.

The territories to the north of such a line shall belong to the Argentine Republic, and to Chile those extending to the south of it, without prejudice to what is provided in the third basis respecting Tierra del Fuego and adjacent islands.

3RD BASIS.

In Tierra del Fuego a line shall be drawn, which, starting from the point called Cape Espiritu Santo, in latitude 52° 40' shall be prolonged to the south along the meridian 68° 34' west of Greenwich, until it touches Beagle Channel. Tierra del Fuego divided in this manner shall be Chilean on the western side and Argentine on the eastern.

As for the islands, to the Argentine Republic shall belong Staten Island, the small islands next to it and the other islands on the Atlantic to the east of Tierra del Fuego and of the eastern coasts of Patagonia ; and to Chile shall belong all the islands south of Beagle Channel as far as Cape Horn and those to the west of Tierra del Fuego.

4TH BASIS.

The same Experts referred to in the first basis shall mark out on the ground the lines indicated in the two preceding

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bases and shall proceed in the same manner therein indicated.

5TH BASIS.

The waters of the Straits shall be neutralized and free navigation assured to all flags, the construction of works of defence which might prevent or embarrass the free maritime traffic by the channel will not be permitted.

6TH BASIS.

The Governments of Chile and of the Argentine Republic shall perpetually exercise full dominion over the territories which respectively belong to them according to the present arrangement.

Any question which may unhappily arise between the two countries, either on account of the present arrangement, or from any other cause whatsoever, shall be submitted to the decision of a friendly power; but in any case the boundary specified in the present agreement will remain as the immovable one between the two Republics."

I avail myself of this opportunity to offer to your Excellency the thanks of my Government and to subscribe myself with the highest consideration,

Your obedient and faithful servant,

MELQUIADES VALDERRAMA.

Enclosure I.

Telegram from the U.S. Minister in Chile to the U.S. Minister at Buenos Aires.

Santiago, June 3, 1881.—I have to-day received from the Minister for Foreign Affairs of Chile the note which I communicate to you by this telegram.

Please lay it before that Government and communicate to me its result.

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Although I consider that the bases contained in the Minister's despatch afford a satisfactory solution, I am however convinced that such arrangement would be better received by this Government and by the whole country if to those bases another could be added in these or similar terms :

" 7TH BASIS.

The contracting parties reserve their right to ask, within the period of three years, reckoned from the exchange of the ratifications of the present arrangement, for the appointment of an arbitrator to the sole and only end of determining, in view of the legal titles exhibited by either party, to the territories lying to the north and south of the 52nd parallel, the pecuniary compensations which one may owe the other ; the boundaries stipulated for the two Republics in the former bases, in any case to remain immovable." Quoted
p. 693.

And a stipulation like this based on justice would be, in my opinion, very appropriate to neighbouring and kindred peoples, and would remove the difficulties with which the agreement might meet among the persons who, there and here, exaggerate the excellence of the titles of each country to those territories. I consider that our efforts would be more amply rewarded if your Excellency succeeded in obtaining from that Government the acceptance of the basis which I have just inserted.—THOMAS A. OSBORN.

Enclosure M.

The U.S. Minister in Chile to the Minister for Foreign Affairs of Chile.

Santiago de Chile, June 7, 1881.—Sir,—I have had transmitted without delay, and by telegram, to my colleague at Buenos Aires the esteemed note of your Excellency of the 3rd inst., in which certain bases for the settlement of the boundary question with the Argentine Republic are indicated to me,

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requesting him to send the said note to the Honourable Minister for Foreign Affairs of that Government. I beg to enclose for the information of your Excellency a copy of the telegram in which I transmitted the note.

I have now received a reply in which I am informed that my colleague transmitted a copy of my communication to the Honourable Minister and that a reply to the latter was received at the Legation of the United States, a copy of which has been sent to me by telegram.

I beg now to enclose a copy of my colleague's telegram which embodies Minister Irigoyen's answer to your Excellency's note.

With sentiments of the highest consideration, your Excellency's most respectful and obedient servant, THOMAS A. OSBORN.

Enclosure N.

Telegram from the U.S. Minister at Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, June 6, 1881.—Official.—I have transmitted to the Minister for Foreign Affairs of this Republic a copy of your Excellency's telegram dated the 3rd and I have just received the note which I transcribe in order that, continuing our friendly offices, your Excellency may request the acceptance of that Government.

Buenos Aires, June 4, 1881.—Mr. Minister: I have had the honour to receive a telegram addressed to your Excellency by his Excellency the Minister of the United States in Chile, transcribing Señor Valderrama's note dated the 3rd inst. It devolves upon me to thank your Excellency and your honourable colleague in Chile for your spontaneous and noble efforts, which are characteristic of the worthy Representatives of the American Government who have always shown a keen interest in peace and good understanding between

these countries. Accepting the friendly offices of your Excellency I take the liberty of requesting your co-operation in order to acquaint the Chilean Government with the following reply to the bases of agreement transmitted in the telegram quoted of His Excellency Mr. Osborn to your Excellency : First basis accepted with *a small addition which supplements it*. It would remain in the following form : " The boundary between Chile and the Argentine Republic is, from north to south, as far as the 52nd parallel of latitude the Cordillera de los Andes. The boundary line shall run in that extent along the highest summits of the said Cordilleras which divide the waters and *shall pass between the streams (vertientes) flowing down to either side.*" All the rest of the first basis is accepted, and I beg to state that the words added were already admitted by both Governments during the previous negotiations of 1877 and 1878. Second basis accepted as proposed. Third basis accepted as proposed. Fourth basis accepted as proposed.

Quoted
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Fifth basis accepted, but with the following wording, which amply restores confidence between both countries. Upon this point I must maintain the meaning and wording which I expressed to your Excellency in our conferences of the 10th and 30th of May, and which your Excellency informed me had been transmitted to your Excellency's honourable colleague by telegrams of the 11th and 31st of May. The wording would be the following : Fifth basis.—The Straits of Magellan shall be neutralized for ever, and free navigation assured to the flags of all nations, the construction of fortifications or military works not being permitted on any of its coasts. The fifth basis terminates here. I believe that this is the spirit and meaning of the basis proposed by His Excellency the Minister of Chile ; but this Government believe that the termination of this question must be absolutely frank and adequate to re-establish cordiality between both countries. Your Excellency will remember that I have always been constant to this idea

Quoted
p. 294.

Quoted
p. 294.

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and in presenting upon all points wordings adapted to the true intention of both Governments and which cannot give rise to wrong or distorted interpretations. Any doubt upon the point with which I am dealing would lead to mistrust between the two countries which, when putting an end to the pending question should frankly return to their former friendship. Moreover, the prohibition against constructing fortifications and military defences is a guarantee which both Governments give to the world in favour of the neutralization and freedom of the waters which they surrender to the commerce of all nations. The wording which I propose is taken from the Treaty of Paris in its reference to the Black Sea, and from other similar Treaties. Sixth basis accepted as you propose. Regarding the addition suggested by His Excellency Mr. Thomas A. Osborn and which might appear as a seventh basis, I regret to say that it is not possible to accept it because it would be disadvantageous to both countries. By it we should leave open for three years a fresh question in which the susceptibilities of opinion on either side of the Andes would be aroused. The question of rights would continue to cause division. The Governments would feel inclined to make use of the reserved right and the debates would be renewed, entailing the unfriendly consequences which they generally produce. For these reasons it is not possible to add to the bases proposed by His Excellency Señor Valderrama that indicated by your Excellency's honourable colleague. I hope that the proposed explanation of the wording of the fifth basis will be accepted as adequate to establish signs of peace and trust between these countries, of liberty and security to the commerce of all nations for whose benefit both Governments neutralize the Straits. I have the honour to offer to your Excellency the expression of my most distinguished consideration.—BERNARDO DE IRIGOYEN. To His Excellency General Thomas O. Osborn, Minister Resident of the United States.

(Signed) THOMAS O. OSBORN.

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Enclosure P.

**Telegram from the U.S. Minister in Chile to the
U.S. Minister at Buenos Aires.**

Santiago, June 10, 1881.—I have received your Excellency's telegram dated the 6th inst., in which your Excellency transcribes for me the reply given by the Minister for Foreign Affairs of the Argentine Republic to the despatch of the Minister for Foreign Affairs of Chile, which I communicated to your Excellency.

On the 7th inst. I sent to this Government a copy of your Excellency's telegram and I received a reply yesterday.

In conformity with the wishes of the Minister of Chile expressed at the end of his despatch, I hasten to transmit it to your Excellency, requesting your Excellency kindly to lay it before the Argentine Government.

I observed with marked pleasure that our common efforts have obtained a satisfactory result so far, and it is to be hoped that we shall soon reach an end, since no material difference now divides both countries. It seems that the idea of the Government of Chile—to give ample and complete security to the navigation of all flags through the Straits—is to be found clearly and firmly stated in their despatch.—(Signed) THOMAS A. OSBORN.

Enclosure Q.

**The Minister for Foreign Affairs of Chile to the
U.S. Minister in Chile.**

Santiago, June 9, 1881.—Sir,—I have had the honour to receive the note which your Excellency has kindly addressed to me under date of the 7th inst. with the object of forwarding me a copy of the telegram sent to your Excellency by your honourable colleague at Buenos Aires, where is transcribed

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the reply given by the Argentine Government to the bases of agreement contained in my despatch of the 3rd inst. From the reply of the Argentine Government it appears that the first of the bases referred to in my despatch is accepted with a slight addition which gives rise to no objection on our part. I rejoice to note that upon this point an agreement exists between the two Governments. These bases second, third and fourth are also accepted. Only the fifth, which refers to the neutrality of the Straits, has suggested some remarks which I shall now examine. Your Excellency well knows that the intention of the Chilean Government has always been clear and well defined. During the several conferences in which I have had the honour of speaking with your Excellency upon this matter, I have not failed to enforce my Government's determination to secure the neutrality of the Channel for all the flags of the world. In order to give to this promise all the necessary formality I added the agreement not to construct works of defence which might in any way prevent or embarrass the free navigation of their waters. The general commercial interests which the neutralization of the Straits was called upon to favour were amply guaranteed by the formula suggested by my Government. In a word my Government have not been disposed to limit their jurisdiction over the territories which the projected compromise acknowledged to be theirs south of parallel 52°, save in so far as it might be necessary to give to the commercial interests of the whole world a tranquil and permanent route through the Straits. The wording of the fifth basis answers to this idea and in my opinion secures the results in view. In this manner the facilities which modern civilization seeks for free and sure communication between all countries are harmonized with the ownership which pertains to Chile of the territories indicated by the projected compromise. Were our Government unable to erect on their own ground works of defence which,

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without in any way embarrassing the free navigation of the Straits, would serve as a safeguard and security to the settlements of that remote section of our territory, we should be creating an untenable situation. The wording indicated by the Argentine Government would not only establish the neutralization of the waters of the Straits, but would create for Chile an unnecessary limitation of her dominion over the adjacent territory. The stipulation of the Treaty of Paris regarding the neutrality of the Black Sea, does not, in my opinion, apply to the present case. Your Excellency well knows that this was a stipulation to a certain extent imposed by force and which could not subsist for any length of time. In fact not many years had elapsed before Russia requested the revision of that Treaty precisely in the part which is now quoted as an example, and on the 13th of May, 1871, the Governments of France, Great Britain, Russia, Austria, Germany and Turkey, assembled by means of their representatives, signed the Treaty of London, which abrogated Article XIII. of the Treaty of Paris of 1856, which limited the dominion of Russia, preventing her from maintaining or establishing military or naval arsenals upon the littoral of the Black Sea. The signatory powers of the Treaty of London, animated by a spirit of concord, did justice to the remarks of Russia and abrogated a provision which could only create difficulties. These same antecedents show, in my opinion, the necessity of maintaining the wording of the fifth basis as formulated. In this manner we shall avoid all cause of subsequent difficulties, and we shall not weaken, without justifiable cause, the dominion which corresponds to both States over the territories to which the compromise refers. The guarantees and facilities concerning maritime commerce are frankly and amply assured in the proposed wording. I cherish the confident hope that the Argentine Government will weigh these remarks, and this circumstance leads me to request once more the friendly co-operation of your

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Excellency in order to bring this despatch to their knowledge. I am happy to be able to repeat to your Excellency the assurance of my most distinguished consideration with which I am, your Excellency's obedient and humble servant, MELQUIADES VALDERRAMA.

Enclosure R.

The U.S. Minister in Chile to the Minister for Foreign Affairs of Chile.

Santiago, June 15, 1881.—Sir,—Your Excellency will find enclosed herewith a copy of a telegram which I have received from my colleague at Buenos Aires in reply to mine of the 10th inst., transmitting your Excellency's note of the same date.

I also enclose a copy of my telegram above mentioned.

With sentiments of the highest consideration, I have the honour to be, Sir, most respectfully your obedient servant, THOMAS A. OSBORN.

Enclosure S.

Telegram from the U.S. Minister at Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, 14th of June, 1881.—Official.—I have transmitted to the Minister for Foreign Affairs of this Republic your Excellency's telegram dated the 10th. The following reply has just been handed to me :

Buenos Aires, June 14th, 1881.—To His Excellency General Thomas O. Osborn, Minister Resident of the United States. Mr. Minister : I have duly acquainted myself with the telegram which your Excellency has kindly forwarded to me addressed to your Excellency by His Excellency Mr. T. A. Osborn, containing the note of His Excellency the Minister for Foreign Affairs of Chile dated 9th, to which I

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reply. This Government have sought, from the beginning of the negotiation, solutions avoiding doubts or ambiguous interpretations. Having this idea in view, they have likewise felt well disposed towards arbitration with precise limitations, submitting unconditionally the disputed territories and amplifying the faculties of the arbitrator by even permitting him to grant compensations. They have also been well disposed to a direct arrangement. Your Excellency deigned to submit these views to your honourable colleague by telegram of the 11th of May which contained the two formulae which this Government would accept. Your Excellency's honourable colleague replied referring the question preferably to direct arrangement. Once this suggestion had been accepted we have always co-ordinated the several propositions made or accepted, and from the beginning I considered it indispensable that the acknowledgment of the line which was proposed to the north of the Straits should be accompanied by the agreement not to construct fortifications or military depots on the coasts of the Straits. Dr. Saenz Peña thus stated it to Señor Sarratea by a telegram of March 10th, which, according to information in my possession he must have communicated to the Government of Chile. It was also thus stated by your Excellency to your honourable colleague in Chile by telegrams of the 11th and 31st of May which may be consulted at Santiago. The Minister of the United States in Chile communicated to your Excellency the following by telegram of the 28th of May: "The neutralization and free navigation of the Straits and the agreement not to construct fortifications which might prevent one or the other thing, shall be stipulated." This answer was understood to be in acceptance of the basis which I proposed in the said telegrams of the 11th and 31st and which I find myself compelled to maintain in the interest of a cordial solution for both Republics and all nations. Fortifications and military establishments on a strait to be neutralized for ever,

Quoted
P. 294.

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have neither object nor explanations. This has been understood by nations in similar situations. In the present case the arrangement mentioned is not a limitation imposed on an existent or acknowledged sovereignty. This sovereignty is about to be created by the compromise and is constituted with the limitations stipulated by both Governments on behalf of harmony and general interests. It is advisable to bear in mind that in conformity with the principles (accepted?) by both Governments, neither of them would close the Straits. The Government of Chile will find that I insist on the fact that there are antecedents quoted in previous telegrams: I beg to observe that the stipulations of the Treaty of Paris which were reconsidered in London, were various, Articles XI. and XV. being abrogated, and the thirteenth being a guarantee of the eleventh, it could not subsist after the disappearance of the main one; but the free navigation of the Black Sea was confirmed and guaranteed by the watchfulness of the Powers and International Commissions. In subsequent treaties and specially in that of Berlin stipulations identical with that proposed are to be found and even more limitative ones if the Government of Chile be disposed, as stated by His Excellency Señor Osborn in his telegram of the 28th of May, to agree to the arrangement not to construct fortifications preventing the navigation and neutralization which I hope they will not refuse, stipulating this in the manner which I have proposed and which I find myself compelled to maintain. Being convinced that they will see in this remark the sincere desire to re-establish the ancient friendship of the two countries and that, animated by the same desire, they will admit a wording which is in accordance with their intention and which shall permanently establish confidence and harmony, I beg of your Excellency in continuation of your friendly offices to be pleased to bring this reply to the knowledge of His Excellency the Minister for Foreign Affairs of Chile. I have the honour to salute

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your Excellency with my most distinguished consideration.—
BERNARDO DE IRIGOYEN.

During lengthy conferences which I have held with Señor Irigoyen, discussing the matter with which we are dealing, I have reached the conviction that on behalf of a definitive solution which will give no occasion for further treatment of this matter, and also out of consideration for our Government—whose friendly policy, much appreciated here, we represent—the Argentine Government have made all the concessions in their power. I am convinced that the desire of securing permanent confidence induces them to maintain the proposed formula, and I am sure that, once this question is solved, both Governments will abound in friendly sentiment and accord. In this conviction I wish that your Excellency could put an end to this one difficulty, which is also the only reservation and condition of the agreement, since in previous acts the Government of Chile declared for the free navigation of the Straits and their neutralization in case an arbitral suit should be favourable to them.—THOMAS A. OSBORN.

Enclosure T.

Telegram from the U.S. Minister in Chile to the U.S. Minister at Buenos Aires.

Santiago, June 25, 1881.—I beg to enclose copy of the note which I have just received from the Minister for Foreign Affairs of Chile in reply to the note from the Argentine Minister which you transmitted to me by telegram of the 14th inst. I am happy to think that our common efforts have produced a result which ensures the good friendship of the two countries and which will be very pleasing to our Government.

May God preserve you.—THOMAS A. OSBORN.

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Enclosure U.

**The Minister for Foreign Affairs of Chile to the
U.S. Minister in Chile.**

Santiago, June 25, 1881.—Sir,—I have had the honour to receive together with the note which your Excellency has done me the honour to address to me, a copy of the telegram sent to your Excellency on the 14th inst. by your honourable colleague at Buenos Aires and in which appears inserted the reply given by the Minister for Foreign Affairs of the Argentine Republic to the despatch which I communicated to your Excellency under date of the 9th of the same month. In the ardent desire of reaching an agreement with the Argentine Government upon the question with which we are dealing, and leaving aside all controversies upon points of law which do not touch the question directly, I purposely omit to reply to the historical precedents recalled by the Minister and as to which, if the opportunity arose, I could make well-founded observations. This same desire to set aside all incidents which might separate us upon the main question, induced me from the outset not to rectify the suggestion of the Argentine Minister, repeated more than once, and according to which, the proposal transmitted by Señor Sarratea by telegram of the 8th of March, was known to and approved by the President of Chile. Your Excellency is aware, since I informed you of the fact on the first opportunity, that Señor Sarratea's proposal did not carry with it the acceptance of the President, who was only informed of it by the communication of the Argentine Minister. Persisting, therefore, in my previous intention and with no other ambition than to seek on behalf of both countries an equitable and friendly agreement which may strengthen in the future the ties of neighbourhood and union of the two nations, I beg to submit to the consideration of the Argentine Government

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the following basis, which embodies the ideas of both Governments: 5th Basis. The Straits of Magellan shall be neutralized for ever, and free navigation assured to the flags of all nations. In order to assure this freedom and neutrality, no fortifications or military defences shall be constructed on the coasts that might be contrary to this purpose. I have well founded reasons for expecting that the preceding formula is accepted by the Argentine Government and, in the confidence that this question will be settled through the efficacious and kind offices of the American representatives and the good spirit shown by both Governments, I beg to subscribe myself, your Excellency's most obedient servant, MELQUIADES VALDERRAMA.—

THOMAS A. OSBORN.

Enclosure V.

The U.S. Minister in Chile to the Minister for Foreign Affairs of Chile.

Santiago de Chile, June 28, 1881.—Sir,—I beg to enclose copy of a telegram which I have received from my colleague at Buenos Aires in reply to mine of the 25th inst. transmitting your Excellency's note of the same date.

I also beg to enclose a copy of my telegram referred to.

Congratulating your Excellency upon the happy results of these negotiations, I beg your Excellency to believe me, with sentiments of the highest consideration, your obedient servant, THOMAS A. OSBORN.

Enclosure W.

Telegram from the U.S. Minister at Buenos Aires to the U.S. Minister in Chile.

Buenos Aires, June 27, 1881.—I beg to enclose to your Excellency copy of the note which I have just received from

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the Minister for Foreign Affairs of this Republic in reply to that of the Minister of Chile dated the 25th inst. which your Excellency transmits to me and of which I have sent a copy to Señor Irigoyen:—

Buenos Aires, June 26, 1881. To General Mr. Thomas O. Osborn, Minister Resident of the United States. Mr. Minister : I have had the honour to receive the note which your Excellency has addressed to me enclosing me a copy of that which His Excellency the Minister of Chile has addressed to your Excellency's honourable colleague proposing basis 5th which was still pending. Being animated by the same friendly sentiments expressed by His Excellency Señor Valderrama, I request your Excellency to inform the Government of Chile that the proposed basis is accepted, which for clearness' sake I reproduce herein. Fifth Basis. The Straits of Magellan shall be neutralized for ever, and free navigation assured to the flags of all nations. In order to assure this freedom and neutrality, no fortifications or military defences shall be constructed on the coast that might be contrary to this purpose. I now beg to repeat to your Excellency the expressions of true esteem in which this Government hold the noble co-operation of your Excellency and of your honourable colleague at Santiago, and to subscribe myself with the assurance of my most distinguished consideration, your obedient servant, BERNARDO DE IRIGOYEN.—

THOMAS O. OSBORN.

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MINISTER IRIGOYEN ON ARGENTINE PORTS ON THE PACIFIC.

[Translated from "*Discurso del Señor Ministro de Relaciones Exteriores, Dr. D. Bernado de Irigoyen, pronunciado en la Cámara de Diputados Nacionales en las Sesiones de los días 31 de Agosto, 1 i 2 de Setiembre de 1881, sobre la Cuestion de Límites con Chile i el Tratado celebrado entre los Gobiernos de aquel país i la República Argentina.*" Buenos Aires, 1882, pp. 198-201.]

(Quoted on pages 335 and 336 of the Statement.)

* * * * *

And since we are dealing with *ports*, I will say that, while I am persuaded that by the agreement of July we do not deliver up ports on the Atlantic, *I think it probable that the Republic acquires them in the waters which flow towards the Pacific*; and this idea is derived from Fitzroy's maps, so highly praised in this discussion.

Quoted
p. 336.

From the examination of these maps and from information which I have collected, it appears that *the line established by the Treaty runs across the large inlets of Last Hope or Última Esperanza and Obstruction Sound*, leaving the former as Argentine and the latter as Chilean.

I have been assured the former inlet and that of Worsley, which is also left as Argentine, offer good ports and anchorages, which in time will serve for the development of the population and of the industries which may be established in those places.

I have consulted the opinion of Señor Moreno, and I shall

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now venture to read the notes which he has kindly handed me.

“ The Treaty which fixed to Argentine territory its southern limit on the 52nd parallel and its western one on the Cordillera de los Andes, allowed of our [the Argentine Republic] having ports on waters belonging to the Pacific. Quoted
p. 335.

“ The Cordillera Sarmiento is cut on the 52° 12' leaving a navigable channel between that place and King William's Land, where Mount Burney rises.

“ This channel called 'Ancon sin salida,' surrounds the large peninsula of the chain quoted, forms Small Hope Inlet to the east of it, penetrates between two peninsulas, separating into two small but always navigable channels, and reaches the two larger inlets of Last Hope or Última Esperanza and Obstruction Sound. The 52° cuts those inlets in half, leaving the former as Argentine and the latter as Chilean.

“ The first inlet and that of Worsley which is also Argentine, have good ports and anchorages.

“ The neighbouring territory differs greatly from that situated to the west of the Sarmiento Cordillera. The climate is very temperate, rain less frequent, the lands extremely fertile, and the mountains which are not high, leave large valleys between their slopes.

“ To the east of this territory the country resembles Gregory range (Straits of Magellan) to which also by its geological formation it belongs.

“ In the vicinity the affluents forming the River Gallegos rise and as a general rule they are lands easy to settle, and with greater advantages than those of the Brunswick peninsula.

“ The region situated to the north, between the extremity of 'Last Hope Inlet' (the termination of which is not well known yet) and Lake Argentino, in the extent of twenty leagues is still unknown; but I believe that one of the arms of this lake, which I saw in 1877, prolongs itself towards the

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south, diminishing that distance, and, in addition to this, other lakes which exist in that extent and which have not been well studied in their surroundings, from that Inlet as far as Lake Argentino, form almost a fresh water channel stretching parallel to the salt-water one which starts at Reloncavi Inlet, fed by the waters of the Pacific. My opinion is that such region is of immense value ; the lands, the forests, the pasture lands which feed the wild horses, and the relatively good climate, will permit the development of the future settlement. The carboniferous layers stretch from the Straits to further north of San Martin Lake, there is an immense supply of timber, and the glacial alluvia contain gold nuggets. I believe that by studying that region, ascending the River Santa Cruz with a small steam-boat, and despatching expeditions from Lake Argentino, an easy survey of the territory could be made, and thus we should learn the ease with which our Atlantic settlements can communicate with those that may in the future be founded on these waters of the Pacific.

“ With the neutrality of that channel situated to the south of 52°, our commerce will have easy access at all times as far as those inlets and there our ships could be provided with fuel which is so expensive.

“ Not only might the mining industry be established in those points of the Plains of Diana as far as the Atlantic ; Argentine cattle would find abundant food.

“ It is certain that in that Inlet the Cordillera de los Andes has no branch which can give rise to discussion.

“ The central range stretches at a long distance to the west. Its exact delimitation is of the greatest interest at this moment.”

This is the information which leads me to believe that we shall have ports in the waters which lead to the Pacific.

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DON VICENTE PEREZ ROSALES ON THE VARIOUS RANGES OF CORDILLERAS IN THE NORTH.

[Translated from "*Recuerdos del Pasado*," 1814-1860. Santiago, 1862.]

(Quoted on page 343 of the Statement.)

* * * * *

(Pp. 102, 103) Having exhausted, in the preparations, the resources which were left to me, and following no other advice save that which presumption or confidence in my strength gave me, *I undertook the passage of the Sierra de Famatina, in which I succeeded, despite the snow.* When crossing these frozen and white summits, which in my ignorance regarding the Cordilleras in that latitude, *I believed to be the dividing line which separates us from the Argentine provinces,* I could not but give a triumphant glance at my silent servant, who contented himself with saying sadly to me :

" Well, master, you will know what to do, for as to myself, you know that I die where you die, for *we are still at the beginning of the journey.*"

In fact, once the high plateau which stretches to the west of the Famatina ridge was crossed, the more or less orderly succession of lofty peaks which may be seen on it, gave me to understand that this ridge was another range which had a certain parallelism with the previous one ; and, continuing my march, it was not long before it presented to my astonished view *another imposing and extensive ridge which, under*

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the name of Guandacol, runs parallel with that which we had just left on the west, forming with it a sort of enclosure to the deep valley where the waters of the Bermejo flow.

After five days of persistent struggle in my painful journey, detained by the snows, driven forward by hurricane winds which, making the snowdrifts rise in those glaring heights, often hurl rider and horse into deep precipices, without sufficient supplies to stay there for any length of time, or a horse able to endure fresh climbs, I had, against my will, to turn back, and following, until leaving the valley, the course of the Bermejo, to seek shelter in the Indian village called Calingasta, where my unfortunate retreat ended.

The writers dealing with the geography of America are very much mistaken when, guided by the more or less capricious tracing of the general maps, they take it for granted that the great Cordillera de los Andes is a continuous range from its entrance into Chile to the waters of the Straits of Magellan. There is no such range, nor such a continuity except in the centre, and it does not comprise one-fourth of the extent given to the whole of the Chilean range.

From San Juan northwards the increasing breadth of the eastern base of the Andes in those latitudes may be observed as well as the appearance of the extremities of ranges, which, without losing their character of spurs of a main block, seem to follow a direction parallel to it. These extremities, transformed afterwards into partial ranges with snowy peaks, leave such high plateaus between them that, when reaching the latitudes of Atacama and Antofagasta, the traveller who finds himself in them is unable to ascertain whether he is on the ridge or on the plains, in spite of his finding himself on heights superior to those which are found in many of the Nevados of the south of Chile, above the level of the sea.

At a mere glance from a man fairly accustomed to determine geographical positions in his travels, the Cordilleras

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Riojanas exhibit three principal cordons crowned by mighty snow-clad mountains, and separated from each other by very high valleys : the cordon of Sierra Famatina, above which the imposing giant of the same name rises with a height, according to the lamented Von der Hoelten, of over 6000 metres above the level of the sea ; the Guandacol ; and that in which occurs the separation of the waters between the two Republics ; but it must not be thought that the wide eastern base of the Cordillera ends in the extremity of the declivities of the Famatina, because still more to the east I have had occasion to cross the Velazco ridge which runs almost parallel to the previous one with an average height of about 2000 metres.

Quoted
p. 343.

During my journey I had occasion to note the singular phenomenon that the declivities of all these lateral ranges are steeper towards the west than towards the east.

Putting in order my mental notes and comparing them with those made on my subsequent travels, I am in a position to affirm that the assertion of the writer Napp is entirely fanciful when he states on page 67 of his work entitled *Republica Argentina* that " to the south of 32° the Andean plateau narrows, becoming finally a crest which, sinking gradually, stretches down to the southern extremity of the continent." When putting forward such inaccuracies as truths, the worthy Napp has either given way to the idea then prevailing of narrowing the Chilean territory, between those latitudes, or has deemed it advisable to sanction in writing, as accurate, the many mistakes displayed in his map of the Argentine Republic in the demarcation of its frontiers with the Chilean Republic. The height does not begin to diminish from 32° as he asserts, for Mount Juncal, which rises on 24°, is superior in height to that which the Nevado Famatina is supposed to attain and almost exactly equal to that assigned to the Llullaillaco, situated much more to the north between parallels 24 and 25, not to mention the giant of the Andean system, Mount Aconcagua, which is

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found almost on 33° S. The true progressive diminution of the general height of the block of the range comprised between 24° and 34° begins at the latter and continues to diminish with most marked inequalities till it ends in the seas of the Cape. But, if it be true that its height, above the sea diminishes, it is also true that its breadth, instead of developing into the supposed crest of the German-Argentine writer, attains such an extent on its base that it seems much superior to that of the north as is shown by the heights of the mountains of our archipelagos, true offshoots of the Cordillera, and by the exploration of our naval officers in the Rivers Huemules and Aisen between 45° and 46° of southern latitude. . .

No. 29.

COLONEL OLASCOAGA'S REPORT ON MAIPO PASS, 1882.

[Translated from Benjamin Vicuña Mackenna's "*A Traves de los Andes*,"
Santiago, 1885, pp. 245-249.]

(Quoted on pages 344 and 1031.)

FROM the "Potrero del Zorro" this road continues penetrating into the Cordillera, the natural ascent which leads to the dividing summit being scarcely perceptible. It is only some 5 kilometres further, that an ascent is met with that can be cut across, making a detour southward, which would allow one to reach, after 14 or 15 kilometres, an extensive plain called Pampa de los Avestruces. In this stretch there is only a descent to be cut through an earthy slope.

The aforesaid pampa prolongs itself for nearly 5 kilometres, in which extent the road, as it may be supposed, is clear. There are only two very gentle descents, one of nearly 200 metres, and the other only 100, both in very soft ground. About two and a half kilometres from this pampa some nice slopes called Las Vegas are reached, without encountering any other difficulties than the mentioned descents.

From Las Vegas the way continues easy, crossing the stream Llaucha which arises there ; after which comes a gentle ascent for nearly 500 metres.

This ascent is called Los Paramillos, and is perfectly accessible by carriages such as it is. The ground is pure earth.

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Then comes a short descent of 10 metres and the track follows by a kind of valley until another descent is met with, of no more than 50 metres length. This descent is also called Los Paramillos, and the distance from Las Vegas to this point is 35 kilometres.

From this place may be seen a conical hill lying towards the N.N.W. and situated on the eastern slope of a great range of Cordillera which is defined precisely at the point where it must be crossed by the road. This is doubtlessly the divisional line between both Republics. The cone emits a column of smoke. It is a feature of the topography of the place which was not yet known ; a volcano that is still nameless, and according to information which has been corroborated by various reports, it was in activity in the middle of April, 1880 ; from which time the earthquakes at Mendoza have almost completely ceased. This volcano ought for this reason to be called " La Válvula."

* * * * *

From the descent of Los Paramillos, the road continues in its greater part across a beautiful plain as flat and unbroken as the best race-course.

Some 15 kilometres are made thus until a river is reached which carries about 3 cubic metres of water (per second), which issues from a great lagoon that is seen at some 4 or 5 kilometres on the right. This river is no other than Rio Diamante, which from here flows enclosed between the Cordilleras, and changes its direction to the east of the summit of the mountain of the same name, and notably increasing its volume, descends to irrigate the fields of San Rafael.

In order to reach the crossing point, 2 or 3 kilometres of road ought to be made, the general level being good, and a bridge constructed, whose proper place it would be easy to find.

At the crossing of River Diamante a short stretch of slope must be walked over in an ascent for 200 metres, up to the

Quoted
p. 344.

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plateau which forms the general characteristics of the whole road. Some 45 kilometres are still made on this plain of a slightly ascending track, at the extremity of which are found the first sources of Rio Maipu, which determine the Chilean jurisdiction.

The line of demarcation between the two countries is almost imperceptible, at first sight on this plain, which must seem as surprising as the condition in which all the rest of the road herein described is found.

The depression of the Cordillera at this pass is so remarkable, that it is truly surprising to find the headwaters of a Chilean river, and the perfect and clear indication of the international boundary where it seems that one has not even begun the ascent to the heights where the anticlinal summit should be found.

The little inclination hitherto found in our country for the complete study of its topography, is perhaps the only cause of this road being yet unknown, and it would be desirable that the beginning of next spring should be made use of for surveying it and taking its levels, in a thorough manner.

I think that it must be of some importance for the National Treasury to realize the difference of interest for a guarantee between the capital that should be required for constructing roads in real Cordillera and those which would be sufficient for the works I have indicated, *over an almost uninterrupted plain*, passing through towns which with their rapid increase would yield an adequate compensation, apart from the benefits that are proper to a trans-Andean railway.

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COLONEL OLASCOAGA (ARGENTINE) ON THE UPPER BIO-BIO VALLEY.

[Translated from "*La Tribuna Nacional*," Buenos Aires, March 15, 1883.]

(Quoted on pages 345 and 1089 of the Statement.)

THE purpose of the map here included is to show a portion of the southern Andean geography, where are situated the chief places referred to in the last news which have been received from that region, the scene of the present operations against the Indians. This map will facilitate the interpretation of the intelligence already received, and also that which may arrive in future; at the same time it will clear up the confusion of ideas which has arisen on account of the so-called Lonquimay incident.

Pl. II.
p. 345
in the St.

I must begin by the remark that, as has been ascertained by recent topographical surveys, *the Cordilleran system which demarcates the jurisdictional boundary between Chile and the Argentine Republic is not indicated there by the greatest heights*; and this rule, which may be applied with greater exceptions in the northern portion, offers scarcely any worth mentioning, in the part represented by our map.

Quoted
p. 345 and
1039.

Thus, for instance, *the Cordilleran chain to which the extinct volcano Lonquimay belongs, is the most conspicuous and the highest in the zone, which is included in it [the map]. The traveller who comes from the east, as he approaches it, entertains the conviction that the Chilean frontier must be there; and he*

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only perceives that he is already in Chilean territory when, before reaching that Cordillera he finds his way barred by the waters of the Lake Hueyeltue, or of the Chilean River Bio-Bio which rises from it and flows northwards.

This was what happened to Lieutenant-Colonel Ruibal, an officer as intelligent as he was courageous, when he captured the cacique Purran, and what might happen without premeditation to any party or Argentine officer who took that direction in pursuit of the Indians.

This geographical misunderstanding is not to be wondered at when it is borne in mind that even now it is believed in Chile that the boundary line between both Republics lies along the Lonquimay chain. The official and most scientifically executed map of that Republic, made by Pissis, precisely marks out the international division along the Lonquimay line (see Sheet X. of the said map).

Pl. LXXXVI.
p. 1086
in the St.

The mistake of the distinguished geographer is explained, though not justified, by the fact that, when he made his surveys, the Lonquimay region was under the dominion of rebel Indians, both those of the Pampas and the Araucanians.

He did not get near enough, nor could he safely have done so, to study the local topography, and he confined his work to the fixing of points on bases calculated on the Pacific coast, where there was no danger, and whence Mount Lonquimay is distinctly seen. Thus, he placed on the very boundary line the volcanos Callaqui and Llaimas, which rise even further into Chilean territory than Lonquimay.

The contrary happens one and a half degrees further [S.], in the latitude of Villarica, a place recently occupied by the Chilean forces. Señor Pissis there drew the divisional line from the Llaima mountain to the Quetropillan,¹ depriving the Argentine Republic of the large portion of territory which he had given to her on the north, the error being the more gross and re-

¹ Meaning the Lanin.

markable, as the territory encroached upon by his imaginary geographical line includes several rivers, streams and lakes, the waters of which flow to our great River Limay.

Unhappily the error of the Villarica zone has not yet been dissipated in Chile, as that of Lonquimay has been for some time; and it appears according to General Villegas' reports that the Chilean forces operating in the region take as Chilean territory that which is entirely Argentine.

According to Colonel Godoi's report, the Chilean officer Oyarzun, who penetrated as far as Lake Huichilafquen, very coolly informs him that his own chief Drouilly is encamped with his division at Maichin, on the bank of the River Trancura (Travun-cura), a place that is four or five leagues within Argentine territory.

The Travun-cura, with the Machanaco, Colluncura and Chimehuin, are all rivers tributary of the Colluncura or Catapuliche, all of which flow to the Limay.

In one of the Chilean reports, referring to the occupation of Villarica, an allusion is enthusiastically made, amongst the various advantages that it will entail, to the future exploitation of the rich silver mines existing there. This is a further proof that the occupation of our territory is counted upon in that country, because the mines positively existing in the Villarica region, according to reliable information which I will expound on another occasion, are within Argentine and not within Chilean territory. The only known mineral deposit of which a survey was made by Chilean impresarios in 1867, with the permission of the cacique Catriñir, were found near Huichilafquen, in mountains of the eastern slopes, nearly to the S.E. of volcano Villarica, which is the unquestionable point where the anticlinal line that separates the jurisdiction of both countries passes.

To the west of the Villarica system no other mines than those already referred to, whose existence is traditional, were

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known from the first occupation of the said place by our earliest conquerors in the sixteenth century.

In a large tract to the east of Villarica there are still traces of the broad road that the Spaniards made in order to bring their products from what was then the city and bishopric of Villarica to Buenos Aires, and for commercial purposes generally. This road, which started from the last eastern declivities of the divisional cordillera, approaching the places of mineral exploitation, was one of the objects of the exploration entrusted by the Spanish Government to the Pilot Villarino, when he was sent to survey the River Negro in 1782.

I will conclude then, by deducing from these antecedents, that there appear to be reasons for regarding as a simple or involuntary error, the transgression of Chilean territorial rights on the part of Argentine officers engaged in operations in the Lonquimay region, as well as on the part of the Chileans entering by Villarica, until the true line of separation of the Chilean and Argentine territory in that southern part of the Cordillera be ascertained, as they will themselves ascertain it practically in their expeditions.--M. J.O.

No. 31.

COLONEL URRUTIA (CHILEAN) ON THE FRONTIER LINE IN 39° 40' S. LAT.

[Translated from an official note, reprinted in Ramon Serrano Montaner's "*El litigio sobre los Límites entre Chile i la República Argentina*," Santiago, 1900, pp. 75, 76.]

(Quoted on pages 347 and 1116 of the Statement.)

HEADQUARTERS OF THE [CHILEAN] ARMY OF THE SOUTH.—
VILLARICA, January 17, 1883.

FOUR days ago some Indians living at Relmiro [Rehueico or Reyehueico], in Chilean territory, arrived here with information that Argentine forces had reached that place, whence they had carried off a considerable number of animals and some prisoners, three or four persons having been killed as well.

To-day they have come a second time declaring that those same forces or others, it is supposed, have reached as far as a place called Corininé (Carirriñe) still further west of the place already mentioned. As I have a letter from General Villegas, commander of the Argentine army, and likewise a copy of the instructions given to the respective brigades—imperatively ordering that *in no case should the advance brigades cross the dividing-line between both Republics,—I believe that only owing to an error, or lack of knowledge of the ground, could forces under your command have reached the points already*

(Quoted
p. 347.

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referred to, in which, as you may have observed the waters flow towards the west and fall into our rivers.

Therefore, bearing in mind the considerations I have stated, I hope, in view of the good relations which happily exist between both Republics, that you will immediately retire from our territory, restoring to the inhabitants of those places, the prisoners who may have been seized, together with the animals which may have been taken from them, notifying you that among the prisoners I also claim the Argentine Indians who, having already reached Chilean territory, have been captured therein, since they are protected by international law which I appeal to in their favour, in the hope that you, representing the generosity of the highly humanitarian sentiments which do honour to the Argentine Republic, will dispense full justice to this petition which I make in the name of the Government I serve.

If, for reasons unknown to me, it should be impossible for you to comply with the just demands which I find myself imperatively bound to make to you in defence of the legitimate rights of my nation, I beg of you to lay this note before the general of the army corps to which you are attached, in order that, in his justice, in which I have complete confidence, he may decide whatever he may think fit; it being understood, however, that you shall effect your retirement from our territory as soon as this communication reaches you.

With all consideration, I am, etc.,

G. URRUTIA.

No. 32.

COLONEL GODOI (ARGENTINE) ON THE FRONTIER IN 39° 40' S. LAT.

A Reply to the preceding.

[Translated from "*El Litigio sobre los Límites entre Chile i la Argentina por Ramon Serrano Montaner*," Santiago, 1900, pp. 76-79.]

(Quoted on pages 347 and 1116 of the Statement.)

SECOND DIVISION OF THE NATIONAL ARMY, SECOND BRIGADE.—

HUICHI-LAFQUEN, January 22, 1883.

THE communication which you addressed, under date of the 17th inst., to the Commander of the advanced guard of the Argentine division operating against the rebel Indians has reached my hands, and, as chief commander of the brigade which at this moment operates in the zone of the territory east of Villarica, I have the pleasure to reply to it.

If the charges conveyed to you by Chilean Indians, that Argentine forces have gone beyond the territory of the nation, committing acts of war, are true, you have the greatest justification for your claims, and acknowledging this to be so, I shall on my part take the necessary steps in order to remedy what, as you rightly suppose, has occurred owing to an error due to lack of knowledge of the ground, for the Argentine forces have the strictest orders not to advance a step beyond

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the boundary of the Republic. A column of the brigade under my orders is operating at present on the road to Villarica, in compliance with my instructions; I expect its return to-day and, as soon as this takes place, I shall make the necessary enquiries for clearing up the matter to which you refer, in order to act as may be just.

If in reality prisoners have been made in Chilean territory, you may feel sure that they would be set at liberty as soon as the case could be proved.

In defence of *the Argentine officers who might, without knowing it, have trespassed beyond the boundary line of both nations*, you will permit me to make a remark. *The boundaries of the country upon the chain of the Andes, until now demarcated only by an imaginary line, although well determined by the courses of the waters, is unquestionably very difficult of identification at first sight, since these streams, as you must have had occasion to note, generally have a course so irregular that the true one can only be ascertained by survey, for often a stream which begins flowing to the west, when descending to the valley follows its natural declivity and bending, discharges in the rivers that carry their waters to our ocean or vice versa.* Quoted
P. 347.

Having thus replied to the terms of your communication, I beg, in my turn and in the name of the Government of my country, to formulate an identical protest against Chilean forces under your commands which at the present moment are passing over our territory I know not with what purpose..

Yesterday almost at the same time as the arrival of your messengers bearing the communication to which I reply, there also arrived at a short distance from my camp, a Señor Francisco Oyarzun, at the head of 10 armed soldiers of the Chilean Army, who, meeting a column of forces under my orders expressed the desire of advancing to where I was; the Argentine officer had no objection and permitted him to do so, causing him to be accompanied by a guide, but at about two leagues before

reaching this point, he altered his direction towards the north, taking the road which leads to the valley Mamui-Malal, situated almost outside the Cordilleras towards the east, and consequently, at a considerable distance from the dividing-line.

By the guide who accompanied him he sent me a card, the text of which I copy : " Colonel Godoi.—I should have wished to reach as far as your camp to salute you in the name of the commander of the Chilean division, Don M. Drouilly, encamped on the banks of the Trancura on the Villarica road (in Maichu). The bad condition of the horses does not allow me to reach as far as your camp. I am, your faithful and obedient servant, Francisco Oyarzun, Adjutant of the Division."

I thought at the first moment that this officer, Señor Oyarzun, had pitched his camp owing to the bad condition of his horses, as also to await my reply, but later on I learned that he had followed the Mamui-Malal road, where I was assured the rest of the force, which is a military scientific commission, is encamped.

The presence of foreign troops settled on our territory among our own camps, so to say, with no other formality than a polite greeting, could not but surprise me extremely.

It is impossible to suppose that a scientific commission possessing technical instruments and composed of practical men should have penetrated through an error to such a considerable distance from the boundaries of its nation. Therefore, on behalf of the rights of my country and complying with the duties attached to my post, I have sent one of my adjutants to hold a conference with Señor Oyarzun and to request in my name, in writing, an explanation as to his presence in our territory in order to lay it before my superior officer.

Owing to the harmony which happily exists between the two nations, I have supposed that only some object favourable to the civilizing campaign which is being simultaneously carried out on both slopes of the Andes, could have led the above-men-

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tioned Commission as far as our dominions without their knowing it, and it is for this reason that I have given orders to act as I am doing, without requesting anything beyond a friendly explanation and an immediate abandonment of the territory.

In abstaining from exercising the rights which, strictly speaking, I possess as the representative of the Government of my country at this moment, I beg you to believe that I do so, interpreting the sentiments of friendship and fraternity of which the Argentine nation has given so many proofs, and in no way owing to motives of weakness, most inconsistent certainly with the high mindedness and purity with which she knows how to preserve them.

Duly appreciating your correct and pacific intentions, as well as the justice of your remarks and protests in the incidents which have taken place, it gives me pleasure to express to you similar sentiments and to offer myself to your Excellency, officially and privately, as your very obedient and faithful servant,

ENRIQUE GODOI.

No. 33.

CAPTAIN ROHDE (ARGENTINE) ON BARILOCHE PASS.

Extracts from a Lecture delivered at the Argentine Geographical Institute in 1883.

[Translated from "*Boletín del Instituto Geográfico Argentino*," vol. iv. 1883.
Pages given below.]

(Quoted on pages 350, 1188 and 1189 of the Statement.)

(P. 162) . . . From this point of view the glorious campaign lately carried out by my dear and respected chief, General Don Conrado Villegas, of which the rediscovery of the Bariloche Gap was an immediate and direct consequence, deserves special commendation, since *the Bariloche Pass is, indisputably, that which offers greater facilities to the laying down of rails, to the realization of the economical union of two sister countries* that have more than once fought in alliance for the independence of the South American continent. . .

You will understand the satisfaction which I feel in having been able to contribute, in my sphere, to the realization of this discovery. I say realization, *for this is in no way a casual discovery; the re-opening and study of this pass was, on the contrary, one of the secondary objects of the expedition so brilliantly carried out by its Commander-in-chief, General Villegas*, to whom belongs the glory not only of its

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initiative but of its execution, because this was *in every sense subject to his instructions*.

The honour of having taken a more or less active part in carrying out the commands of my superior officer having fallen upon me, I ask your permission, gentlemen, to give you a simple account of what happened, and I trust that you will acknowledge with me the importance of the service done to the country and to the civilized world by the expedition to the Andes. . . .

(P. 165) On the morning of the 22nd of February, I received from the Commander-in-chief of the second division, General Villegas' instructions which I was to follow in fulfilment *of the commission entrusted to me by the Government*. I must here mention two articles of my *instructions*, which have somewhat detracted from its complete success.

Article III. reads: Once the pass is found he shall march as far as the boundary with the Republic of Chile, which *under no pretext whatsoever* shall he cross with armed forces; and Article VI. reads as follows: Captain Rohde shall return on the fourteenth of March next *without fail*, but he shall do so earlier if possible, his services being needed here. . . .

At half-past five in the afternoon, having crossed the Limay, I marched by the right bank of the river with a S.W. course; at 6.15 p.m. passed the eastern extremity of the lake where the Limay starts, and continued in a southerly direction over the large valley of the lake as far as the River "Pichi-leufu" where I encamped at 7.10. . . .

In a S.W. direction from my camp, *I perceived the remarkable gap of which the traveller Cox speaks in his work, Tronador rising in a W.N.W. 5° W. direction*; I decided to go towards it. Moreover, it seemed to me more advisable to go through the first gap, penetrate as far as the Cordillera and, from a dominant point there, study the general direction of the chains of mountains. . . .

(P. 166) On the side nearing Nahuel-Huapi, it [Lake

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Gutierrez] is about 15 kilometres long and $4\frac{1}{2}$ wide, surrounded by high mountains, some of them snow-capped, save on the side where it nears Nahuel-Huapi, from which it is only separated by a line of low hillocks.

As I have said, I followed an ancient road which stretches along the south of Lake Gutierrez. This seemed a good road to me at first, but I was soon undeceived. Thousands of large dead trees, blown down by storms and half consumed by fire, lay across the road and encumbered the passage. After working for several hours, and only advancing some hundred metres, I decided to cut a passage so as to descend to the lake itself. As soon as I was on its shore I began to march along the water.

But here too the hatchets had no rest. Many trees had fallen partially into the water and, as the depth of the water did not allow of our advancing more than three metres from the shore,—for at four metres the horses already swam,—once more I opened for myself a road by means of the hatchet.

But suddenly I drew near to a perpendicular rock ; the soldier who was marching ahead disappeared under the waves, but luckily he was saved ; but I then saw that by this route I could not attain my object, which was to penetrate into the heart of the Cordillera, for I should have lost too much time in cutting a passage through the forests.

(P. 167) It was easy to see that this was not the Bariloche road because the river which drains into Lake Gutierrez comes direct from Mount Tronador, and the Pass must lie a good deal to the south of this volcano. At first I thought that this river was the River "Frio," although the direction of its course did not agree with that given to it on the map, a circumstance which could not cause me anxiety because I had already observed other greater errors. I stated this opinion in a private letter written during the journey and addressed to a friend who caused it to be published in one of the newspapers of this city. However, having consulted, later on, the reports of modern

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and ancient travellers who have made the journey from Chile to Nahuel-Huapi, I have changed my view and believe that it is an unknown river, so that at present we have three rivers which start from the snow-fields of Tronador. One of them is the River Peulla, which drains into Lake Todos los Santos, another the River Frio, which forms Lake Frio and flows into the Nahuel-Huapi, and the third, the River Grande, which goes through Lake Gutierrez and likewise drains into the Nahuel-Huapi.

Through the latter river there is also a pass to the neighbouring republic, and it is the same by which the Franciscan Friar Menendez passed, because the latter says in his report that he descended from the Tronador over the valley of a river flowing to the lake.

There he embarked, and, after crossing the channel, he landed behind two islands. As a matter of fact, where the two lakes are joined by means of the River Grande there are two islands, the only ones together all along the south coast of Lake Nahuel-Huapi. Father Menendez has erroneously taken Lake Gutierrez to be a part of Nahuel-Huapi and he properly calls the River Grande a channel, since it is only a few furlongs in length.

As I have already said, I had decided not to proceed any further, and I halted at 1 p.m., on a narrow strip of land in order to feed the animals. . . .

At 3.20 in the afternoon I started on the march, at 6.30 I passed the gap. I then continued skirting the mountains in an easterly direction, thus avoiding traversing the low land, which is so extremely uncomfortable, and at 8.30 I halted at the Nirrye-co brook, at the point where it leaves the mountains in the extensive valley of Nahuel-Huapi.

On the following day, the 24th of February, I mounted on horseback at four o'clock in the morning, and explored the Nirrye-co; this brook comes from the south 5° to the west

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and starts from the mountains to the south of Lake Gutierrez. . . .

(P. 168) In the afternoon while making an excursion to the mountains I found a valley with abundant pasturage stretching in a S.W. direction. As this course fell in with my intentions, I decided to continue along this valley.

On the following day, the 25th of February, at 5 o'clock in the morning, I started marching through the valley mentioned in a S.W. direction. . . .

Having continued my march over more or less fertile valleys, I halted at half-past six on some low and extremely sandy hillocks, and, proceeding over a plateau with very poor vegetation, I found myself at 7.50 at the summit of the precipice of the small and rapid River Pichi-leufu. . . .

So as not to lose so much time, I usually marched along the river, a difficult task owing to the rapid currents of the river, in spite of the low state of its waters, and which is impossible when it is in flood, and this condition must occur in a formidable manner in the spring, as is shown by the width of its bed and the huge stones which it drags down.

At 3.20 I reached a high and most beautiful forest exclusively formed of large bamboos, for there is no other kind of tree or brushwood to be found, save raspberries, which exist in great abundance and the fruit of which formed the dessert of my frugal meal.

The soil is covered with most prolific vegetation, principally consisting of peas and different flowers. *To the north and south of the river several Cordilleras rise*, in the hollows of which the snow still lay, in spite of the fact that their summits did not reach the line of perpetual snow, although much above the region of vegetation.

At two o'clock in the afternoon I encamped on the banks of a brook, an affluent of the river. Distance traversed, 11 kilometres ; general direction, S.W.

(P. 169) My camp this night was one of the most picturesque that I have seen in my life, worthy of the brush of a Rembrandt or of a Doré.

Gigantic bamboos, lit up by the bonfires made by my soldiers, a brook in the mountain with foamy cascades, an almost full moon which made the snows in the gorges of the *Cordillera which rises on all sides* as dark as eternal night, shine like colossal stars; and, finally, in order that nothing should be lacking in the truly romantic bivouac, numerous bats and owls flew close by our heads in their noiseless flight, attracted by the light of the bonfires.

On the 26th of February at half-past four I continued marching in a western direction.

I crossed many small brooks, a proof that I was already in the region of the headwaters [raiz, literally root] of the river, for the sources and springs which together form a river may be so called. At half-past five I halted to let a shower pass which was hiding the whole of the Cordillera with its clouds. At ten minutes past seven I started again on the march. But the storm increased and forced me to encamp at half-past seven. We were as wet as ducks. . . .

A little further on the valley and the river separate into three branches: one of them coming from the S.W., another from the W., and the third from the N.W. Exploring the S.W. branch I ascertained that, three kilometres further on, it divided again into two branches, one of them coming from the south and the other from the west, and further on they are lost in *impassable fissures*. . . .

(P. 170) *At 9.25 [on the 27th], I found myself in front of the Cordillera where the ultimate sources of the Pichi-leufu rise.* It is a stony mountain containing much iron, without the slightest vegetation and of a most dreary aspect. I named it "*Sierra de Tristeza*." I ascended the mountain on horseback in a zig-zag course. At 9.40 I passed the last source of the river rising

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among the rocks with great impetus like a cascade, surrounded by small snowfields which, aided by the shade, had been able to withstand the force of the sun.

At five minutes past 10 a.m. I found myself on the summit, and I had before me such a magnificent view that I was compelled to close my eyes for some moments, so powerful was the impression produced on me by such majestic scenery. Quoted
p. 1188.

My companion Andrews was right when he said : " This panorama is well worth the trouble of having made the journey from London to Nahuel-Huapi." Between the N.W. and the N.N.E. I saw the great Lake Nahuel-Huapi, enclosed by the snowy Cordilleras ; at my feet a part of Lake Gutierrez, with its silent and gloomy forests of cypress and beech trees ; in the direction of the west, at a short distance, the majestic Tronador which displayed to me its immense snowfields and brilliant glaciers lit up by the sun, and further beyond to the west the great snowy mountains forming the circumference of Lake Todos los Santos, the volcano Osorno being prominent among them all.

It was a sight never to be forgotten, so great and beautiful that imagination cannot conceive it, but it was not *the pass of Bariloche*. *However, I was in a pass, for it would have been easy for me to descend to the large river meandering at my feet over a green meadow, like a silver thread flowing into Lake Gutierrez, to ascend the said river which would have led me to Tronador, thence to take my road through the valley skirting Tronador in the direction of the volcano Osorno, and once at the Lake of Todos los Santos, I could have followed the River Petrohué which runs from the said lake in a southerly direction towards Reloncaví Inlet.*

It was a road which presented no great obstacles ; however it was not my wish to reach the Reloncaví Inlet by a long route, but by the most direct and shortest, and in order to find this I was obliged first of all to get out of that Cordillera whose waters

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were tributaries of Lakes Nahuel-Huapi and Gutierrez, as was easy to ascertain by studying the formation and direction of the chains of mountains. . . .

1st March.—The following day at five in the morning I started on my return and, after a forced march, I encamped at 3 o'clock in the afternoon at my bivouac of the 25th of February. . . . As soon as my men were settled down, I climbed one of the hills which rise on the right bank of the river to see if it was possible to cross to the south over the mountains.

I saw with pleasure that I was nearing the end of that Cordillera which surrounds the district of the lakes like a ring. . . .

(P. 171) Starting from the valley [Pichileufu] I crossed another chain of hillocks and at 8.45 found myself on the cliff of *the first brook which runs inward towards Patagonia*. . . .

At 4.53 I crossed to the right bank of the brook and I climbed a range with an extremely easy declivity which stretches along the brook. In the stones of this range I found the first traces of an ancient road which had already been lost in the valley under the brushwood.

Descending again to the valley, I continued along the bank of the brook until six o'clock in the morning. At this time I reached the spot where the brook takes a turn to the S.S.E. and where a valley with a S.W. direction starts from the left bank of the brook, the entrance to which is almost completely hidden by an upheaval of the land some 40 feet high.

I decided to take my route along this valley and I commanded my men to go forward whilst I determined by means of a compass the direction of the important points for the drawing of the sketch. . . .

I had discovered the thermal waters called "Los Baños" for which I had searched so long. I was therefore on the true Bariloche road. . . . *I traversed the low hillock and went into the valley which stretches behind it. The valley is wide and fertile, circumscribed on both sides by mountains covered by roble*

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forests. Along the valley no brook flows, but at 7 a.m. I passed two lakes where the waters coming from the mountains join. In that valley, I now and again found traces recalling the existence of an ancient road. At 7.20 a.m. I climbed a hillock covered with brushwood which rises little by little; at 7.40 I saw descending on my right in an N.W. direction, a considerable brook which runs over a deep rocky crevice and which, on reaching the valley, turns to the S.W.; that is to say, in the direction of the Pacific Ocean. *I found myself at one of the many places that form the limit of the waters between the Atlantic and Pacific Oceans, but I was not at the frontier between the two countries, as, in my opinion, the line of the water-parting is not the natural frontier between the Argentine Republic and that of Chile, and can never be their political frontier without great detriment to our side.* We shall return later on to this point which is so important to the two countries.

Quoted
p. 350.

(P. 172) At 7.30 I descended the valley of the brook (River Villegas). The valley is narrow, barren and very stony; the brook, which is very rapid and which runs from one side of the valley to the other, dashing at times against one cliff and then against the other, receives many large affluents which considerably increase the volume of its waters and make further passage along it difficult.

However, with a very little labour a cart-road could be made over one of its cliffs. A league and a half farther on the valley widens, and in some part it has excellent pasturage.

At one of these places I fixed my encampment that day.

On the following day at 5.30 a.m. I continued my march along the valley of the river in a general S.W. direction.

I crossed many affluents. From half-past six I observed that the valley becomes narrower and narrower; the river ran from one side to the other, forcing me to cross it several times. There is much brushwood, many stones and little grass.

From three o'clock in the morning I observed on the right

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bank of the river (on which I was marching) a cliff in the shape of a plateau some 50 metres high, while the mountains lie further and further off. On the left bank a stony Cordillera of grotesque [*sic*] formation and without any vegetation whatsoever descends almost perpendicularly to the brook.

At half-past seven in the morning I reached the point where the last traces of the valley disappeared ; to continue my march I had to traverse the plateau recently alluded to. I climbed it without any difficulty. Once on top I saw that it was covered with brushwood and bamboo forests (Tacuaras), which again made my march a fatiguing one.

This plateau, which stretches between the mountains surrounding the valley of Nahuel-Huapi and the stony Cordillera on the left border of the river, has mountains and valleys although they are not sufficiently important to deprive it of its real character of a plain. Only in a S.S.W. direction I saw two high peaks covered with snow, the same that I had seen on the 3rd of March when I crossed the small range where I found the first traces of an ancient road. I had two roads to choose from ; one went to the west, rather to the N. of the snowy peaks, the other in a S.W. direction, soon rejoining the river which effected a turn to the S.E., as I could see by the direction of the stony Cordillera.

I chose the latter road because it seemed to me the safest, for the river must necessarily discharge in some bay or sound. Little by little I had to draw further and further away from the river, for on its right bank rose a chain of mountains covered with forests.

After a march made exceedingly trying by the almost tropical vegetation composed of " Tacuaras " trees and creepers with beautiful blossoms, at two o'clock in the afternoon I descended the valley of an important brook running from east to west and which has its source in the mountains that rise on the right bank of the river.

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I established my bivouac here.

On the following day, the 5th of March, as formidable mountains, covered with thick forests, made progress too difficult, and blocked my road in a southerly and westerly direction, *I decided to continue along the valley up stream until I met with a gap which might give me a passage in a convenient direction.* At half-past six in the morning I started on the march and at half-past seven I reached a beautiful plateau with luxuriant grass, small forests, lakes, etc.; in one word, a veritable park full of large deer, boars, doves, duck, etc. In this plateau I also found the remains of an enclosure made many years back, as well as trees felled by the axe, in other words an evident proof that in this part the hand of man had already been at work.

(P. 173) For this reason I decided to leave the soldiers encamped at this spot and to advance with only two of them in conformity with my instructions.

Although I was already convinced that I had not yet crossed the "real" Cordillera, that is to say, the frontier between Argentine and Chile which as I presumed was situated to the west of the Reloncavé Sound, I nevertheless acted in that manner in order to avoid any conflict with the Chileans, who, according to my belief, were living very near. . . .

On the 7th of March at 5 in the morning I started on the march and, following a path which I had found, I crossed the river and climbed the cliffs on the left bank, which are low and of easy ascent.

The stony Cordillera which hitherto ran along the left bank of the river, continues in a southerly direction from the point where the river turns to the west.

Having climbed the cliff I found myself on a perfectly flat plateau covered with brushwood and grass and crossed by paths. Here for the first time during my journey I was able to ascertain with absolute certainty that, within two or three months, people and horses had been at that place. Besides, I

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found recent traces of cattle and many traces of ostriches. *All this led me to believe that Chilean settlements must be very near.* . . . I marched for some two leagues and climbed a small hillock whence my view extended very far. The plateau stretched in a southerly direction bounded on the west and east by chains of low mountains. Consulting the sketch of my march and Petermann's map, I perceived that the plateau should run parallel to Reloncaví Sound, which could not be more than a few leagues distance ; it did not suit me to continue more to the south as I wanted to land at Puerte Montt. To go direct to the west was not practicable either, owing to the impenetrable forests which covered the mountains.

(P. 174) My firm determination was to follow the bank of the river as far as Reloncaví Sound, which, according to my calculation, could only be a few leagues off. On this day I marched fourteen hours and twenty minutes from 5.30 in the morning until 7.50 in the evening without being able to advance more than 12 kilometres in a continuous westerly direction.

For a stretch of a mile and a half the open road seemed like an endless arbour with roof and walls so thick that the sun's rays could not penetrate them. The vegetation of these lands is so exuberant, so tropical, the Tacuaras brushwood and creepers form so thick a mass that it is impossible to describe it. In order to form a real idea of it, one must have seen it. On this night I encamped in the open country. From this point onwards the valley widens considerably, and the forests diminish. Before my eyes there extended large green meadows without a single shrub, and therefore I entertained the hope of being able to march without meeting with any obstacle. A sad delusion : on the following day, the 9th of March, while marching through those beautiful and green meadows, I soon discovered that they were huge swamps over two leagues wide and stretching on both sides of the river.

However, we continued our journey, leading the horses by

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the rein and often and often getting into the mud up to our waists. It was an awful march and yet it was better and speedier than to cut a passage through the forest with the hatchet and two knives.

Eventually on the evening of that day I had the good fortune to camp at the level of the snow-capped mountains which I had seen some time back and which rise, one in a direction N. 12° W., and the other in a southerly direction from my camp. Farther on in a W.S.W. direction a large gap was to be seen which stretched from north to south. This opening, as I had a presentiment, was the Reloncaví Sound; the object sought for crowned my expedition. . . .

(P. 175) The following day, the 10th of March, was my last day's march. At first I continued my route over the swamp, but this soon became too difficult and I preferred to march along the river; but the river was deep and so rapid as to cause waves. I therefore crossed the valley with extreme difficulty and I went over to the right bank marching over the slopes, and, opening a road through the forests; half a league further on I struck the brook which I had passed on the 5th of March and which joined the river at this point.

I climbed the left bank of the river and, from the top of it, I beheld a coast which was a recompense for all my efforts, for at a distance of two leagues, I had before me Reloncaví Sound stretching from north to south and a league in width according to my calculation. But no life, no settlement; the silence of the tomb encompassed me.

How much I regretted at that moment not having taken with me all my men, their arms and their hatchets, for with them it would have been much easier to overcome the obstacles in less time and to advance towards Puerto Montt, but being more or less alone, I had to resign myself and to return immediately in order to be back at Nahuel-Huapi on the 14th, as I had been ordered. . . . *Throughout the route from the Valley*

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of Nahuel-Huapi as far as Reloncaví, there is not a single chain of mountains which I had to cross. The general structure of the ground is that of a system of plateaux separated from each other by valleys with more or less high cliffs.

Quoted
p. 1189.

The commercial importance of the Bariloche Gap is great if the fertility of the land to the south of Nahuel-Huapi be taken into consideration. In case of war the pass would be a strategic point and it would play an important part among the passes of the Andes for reasons which at present lack interest.

The distance from Limay to Reloncaví with all the detours I made is, as I reckon it, 31 leagues. However, marching with more comfort and less impatience than I did, undoubtedly a more direct route would be found. Having once passed the gap several other roads may, as I have previously said, be chosen, and it is highly improbable that I by mere chance should have chosen the best road.

(P. 176) Therefore I believe that the distance can be reduced to 25 leagues more or less.

To open a cart-road the labour of 50 men for a month and a half would be needed. This work will be carried out next spring.

A Chilean newspaper has said that the path opened by me was not that of Bariloche. The Chilean newspaper has been in a great haste to make such a statement, for, at the time it was made, I had not published one single datum concerning the geographical situation of the pass, since I myself was in doubt as regards the river which I had followed in my march, because many rivers discharge into Reloncaví Sound. Only to-day, having constructed an accurate map, I can tell you with all assurance that the two peaks near Reloncaví are Mounts Ballena and Castillo, the first one 4882 feet high, and the other 4934 feet, and the river probably the Puelo [Manso] according to Fitzroy's map. Another Chilean newspaper asserts that the Chileans were already acquainted with the

Bariloche pass. I do not wish to doubt it, but the truth of the matter is that in no map, not even in those most recently published in Chile, is the gap in question to be found ; therefore, they must have withheld it as a real State secret, and what is secret is not revealed nor open to the public.

We shall now pass to the last stage of this lecture. In the course of the account of my itinerary I have already spoken about the fertility of the land, and moreover it is quite clear that territories on the possession of which the Jesuits were so tenaciously bent that they even faced death to attain their object, must be exceedingly suitable for colonization. For this reason *we shall now deal with the Argentine-Chilean Boundary Question to the south of Nahuel-Huapi.*

In my opinion based on geographical studies, the Argentine territory reaches as far as the eastern coast of Reloncavé Inlet. We shall see what are my reasons. As a natural frontier between the two countries, no other line can be accepted than the real Cordillera : that is, that chain in which the largest number of high peaks are found. It is even now generally believed that the line which can be traced along the highest peaks is coincident with that which forms the water-parting, and, as a consequence of this widely spread belief, that, where a stream rises flowing to the west, the Chilean territory begins, and in like manner the Argentine territory, where the waters flow to the east.

Quoted
p. 350.

We Argentine officers have been called ignorant because we did not immediately know, from the course of the waters, if we were or were not in Argentine or Chilean territory. We are not so ignorant, and those who think we are do not remember their physical geography very well, for it is a great error to think that the summit of the chains of mountains and the water-divide always form a single line.

Quoted
p. 351.

For instance, let us glance at Europe, the continent best known to geography. Taking a map of Europe and drawing a pencil line between the rivers which discharge into the Atlantic Ocean,

the Baltic and the Northern Sea, and those rivers which flow to the Mediterranean, to the Black Sea and the Caspian, *we shall then have the main water-parting line*. Following this line we shall observe that it never runs over the summit of the chains of mountains, nor even along it, but that it crosses them transversally.

This cannot happen in the same degree between the Argentine Republic and Chile where there is but one Cordillera with a fixed north to south direction and two seas, one to the east and the other to the west; wherefore the general declivity of the line must necessarily be over the eastern slope from west to east, and over the western slope from east to west, and the rivers must also flow in like manner.

(P. 177) Nevertheless, I have also observed in the Andes, not at one but at various points, that at some 12 or 15 leagues distance from the east of the real Cordillera, in indisputable Argentine territory, there rise brooks which run to the west, flow through deep and impassable fissures of the Cordillera and discharge in the Pacific Ocean.

Drawing a line between the sources of the waters which flow to the east and those which run to the west, the result would be the true water-divide, and it would be seen that this line runs in a continuous zig-zag. To accept a zig-zag line as a political frontier would be a grave error.

It is therefore shown that, in speaking of the frontier between Chile and the Argentine Republic, only the real Cordillera can be taken into consideration. But where is this Cordillera to be found to the south of Nahuel-Huapi?

As you may have seen by my itinerary, throughout the whole of my march I have not crossed a single chain of high mountains and I have seen no other peaks than that of Tronador, which belongs to the Cordillera to be found in the vicinity of the western shore of Nahuel-Huapi, and, later on, the two mountains near Reloncavé.

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But the latter are isolated like cones, and are besides lower than many peaks which rise from the chain of mountains which extends from the west of the Reloncaví Sound, starting from Lake Todos los Santos.

The solution of a question so important as regards its political phase and so interesting to geographical science, does not devolve upon me ; I have simply done my duty as a soldier by informing my superior officers of my observations, and that incumbent on me as a member of this distinguished Society.

Our statesmen will know how to safeguard the rights of our country, and you, fellow-members, will represent to your forum the scientific aspect embodying, perhaps, the problem on which I have ventured to address you.

Permit me to add a few words regarding the priority of the discovery of the Bariloche Gap, since some Chilean newspapers have attempted to deny the importance of *the expedition made under the auspices of our Government and in conformity with the instructions issued by my distinguished chief, General Villegas.*

(P. 178) The Bariloche Pass will very soon be made useful by means of a cart road, and then rails will be laid there which, *starting from an Argentine port on the coast of the Atlantic, may terminate at another Argentine port on the coast of the Pacific* without the said rails touching a single inch of ground that is not Argentine, for I have already declared to you my innermost conviction that the Argentine possessions reach as far as Reloncaví Inlet, which, as you are well aware, is an integral part of the Pacific Ocean.

It is this, gentlemen, which in my opinion constitutes the cardinal importance of the discovery—so long sought for and so anxiously desired—of Bariloche Pass, which for us, who are the interested parties in it, was concealed for so many years by the dense veil of barbarism, in the shape of savage tribes, who, living by plunder, persistently refused to make way for civilization. . . .

No. 34.

ARGENTINE PRETENSIONS TO RELONCAVÍ INLET.

[Translated from an article entitled "The Bay of Reloncaví," in the paper "*La Patria Argentina*," December 5, 1883.]

(Quoted on page 353 of the Statement.)

WE have said that we should return to the most interesting geographical problem which has been left open to discussion owing to the successful expeditions carried out by Captain Rohde and which relates to the Bay of Reloncaví. We shall not be able at present to give its complete solution, which depends upon fresh studies on the ground by a commission that starts this week to carry out this task, and especially upon the diplomatic discussions which will be opened when the frontier line between both countries at those heights is traced out on the ground.

We can, however, now give an idea of the matter in question and as to its transcendent importance. The Bay of Reloncaví is a bay of the Pacific which penetrates far into the land, by means of a *break in the backbone of the Andes*, if we may be permitted to use this expression, which represents in a graphic way what we wish to express. It forms a splendid port. According to the sketch we have before us, made on the ground by Captain Rohde and by the engineer accompanying him, Señor Brönstedt, it is beyond doubt that the line traced over the highest peaks and over the most prominent ranges of the

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chain, passes across this natural port, leaving a great portion of the bay to the east of the highest ranges.

It appears at the same time from the same sketch, that a secondary chain of much less importance than the line of heights and presenting rather the form of a succession of hillocks, branches off from the general line of the Andes, to the north of Reloncaví, to rejoin the main range to the south of the bay, describing in that interval a vast semi-circle.

As is natural, since we are dealing with hillocks—that is to say, with broken ground presenting two slopes, one towards the east and the other towards the west,—brooks flow from both sides of the summit of this secondary chain, one of them which seems of a certain importance, running towards the Bay of Reloncaví itself.

Now *the geographical and diplomatic question to be solved* is to know what must be understood by the frontier line with Chile; whether *the summits of the Andes* which form a perfectly defined range and which have a solution of continuity only at the entrance of the bay, or whether it is the *secondary line* wherefrom brooks start which flow in the direction of the west. Quoted
p. 353.

When it is said that by frontier line the water-parting line, geographically speaking, is understood, it is always understood that it is the line which in the general relief of the region determines the separation of the two great declivities, of the two ideal plains, that determine the configuration of the orographical basins.

In the entangled net of valleys of a lower level and of successive valleys which lie on both sides of the line of heights, there may be, and there always are, all possible declivities; and the brooks may very well flow perpendicularly to what we have called the backbone, running in more or less time towards the latter.

But, when the line of heights continues to stretch and the

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range has not undergone any break, all the watercourses, no matter however capricious their course in the vicinity of their origin, must necessarily take the direction indicated by the general relief of the region, that is to say, a direction perpendicular to the range and gradually leaving it at a distance. This is what necessarily would have happened *had the Andes, at the height of Reloncaví, formed a continuous line*. The brook which discharges at present in the bay, after having meandered round the range for more or less time, in search of its declivity, would have ended by flowing openly to the east, because to the east is the declivity of this part of Patagonia, and to the west the line of heights would have opposed to it an unsurmountable barrier, if some geological feature, a dislocation, a depression, what in geology is called a fault, had not taken place.

Let us suppress the fault, the depression of a portion of the Andes due to geological causes which we cannot appreciate at this distance, but the effect of which is evident, and no question arises despite the fact that a portion of the brook runs for some time to the west.

What must be called the frontier line, or water-parting line in its most ample sense, is surely and beyond all possible discussion the line of the greatest heights. It is true that suppressing the depression of a portion of the Andes, the Bay of Reloncaví and the advantages which it offers for the development of commerce and colonization in those regions, are also overlooked. In view of what we have just stated it will be seen that the most correct and most reasonable manner of understanding the frontier line in the pending settlements with Chile and in the operations on the ground effected in accord with the latter country, and which will be the practical sanction of the Treaty concluded with the Government of Santiago, *is the line of the greatest heights*, it being of little importance to cases where breaks in the mountains have taken place whether there are watercourses flowing to the west and which empty into a

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western sea arm, so to say. The theory to be maintained by our diplomacy and the question to be put forward as soon as possible, supported by a careful survey and an exact relief of the neighbouring lands, are evident. Quoted
p. 353.

It happens several times in the Andes, which have undergone considerable geological convulsions and specially near Nahuel-Huapi, that there is a brook which flows down one of these accidental breaks of the chain and which runs towards the Pacific without its ever having occurred to any one's mind—so evident does the normal direction of the watercourses in that region seem—that the source of this brook is to be found on Chilean territory.

The question as may be seen, deserves to be fully studied and thoroughly discussed with the Chilean Government.

If the possession on our part of a seaport on the Pacific, the theory we have sustained above, should triumph in the negotiations, the whole phase of the transportation and colonization of the entire Andean section of Patagonia would change and it would constitute the most decisive element of the progress of those remote regions.

In a given case it might even secure to us a portion of the maritime traffic which at present goes round Cape Horn and, while the Panama Canal is not yet open, might divert through the centre of our territory a stream of commerce by no means to be despised, thus giving life and activity to the twin ports, one upon the Atlantic and the other upon the Pacific.

These are great prospects whose realization well deserve much attention and activity on our part.

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SEÑOR BERTRAND'S REPORT AS TO THE PUNA BOUNDARY.

[Translated from "*Documentos Oficiales relativos a los Límites entre Chile, Bolivia i la República Argentina cu la rejion de Atacama*," Santiago, 1898, pp. 27, 28.]

(Quoted on page 254 of the Statement.)

SANTIAGO, *June 21*, 1894.

MR. MINISTER :—

Complying with Your Excellency's verbal request to furnish information as to the new boundaries which the Treaty of Truce of April 4 establishes with Bolivia and the Argentine Republic, Your Excellency will permit me first of all to explain the meaning of certain terms commonly used in Boundary Treaties and which, although not synonymous, are tacitly considered as such, from which more than one difficulty has arisen. Such expressions are "*divortia aquarum*," "the highest summits of the Cordillera," "the anticlinal line."

The first of these terms is a geographical technical expression and means *water-parting line*. Its use implies the previous notion that, from a hydrographical point of view, a region is considered as divided into basins, to the lower part of which the waters flow from its perimeter. The line on which the perimeter of two conterminous basins coincide, forms there *divortia aquarum*, a more or less sinuous line, determined by the features of the ground. If these happen to form a moun-

Quoted
p. 354.

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tain range, it seems natural that its backbone or crest should be the *divortia aquarum*, and that the highest summits should also be found there. It is not always so, however, and the Andean Geography especially is found to be in opposition to these pre-conceived ideas. Its highest summits, as Mount Aconcagua, the volcanoes, Descabezado, Chillan, and many others, tower, not on the central ridge, but in branches that penetrate, either into Chile or into the Argentine Republic. Moreover, it happens that this ridge is, in various places, cut across by deep valleys which carry to one ocean waters having their rise on the opposite side. In such cases there are notable bends in the *divortia aquarum* line, which differs widely from the highest summit line.

Another erroneous notion is that the Cordillera de los Andes only separates, along its whole extent, the waters flowing towards the Atlantic from those flowing towards the Pacific, or in other words, that the rivers, torrents or ravines which start on the slopes of the Cordillera, must inevitably flow towards one of the two oceans. There is a well-known exception to this rule: it is the basin of Lakes Titicaca and Pampa Aullagas, a vast region suspended, so to speak, on the very summit of the Andes, the lowest point, or sink, of which is the swamp of Coipasa, at 3700 metres above the sea.

What was hitherto unknown to geography, and is a result of my recent exploration, is the fact that the Andean plateau, which begins on the $14\frac{1}{2}$ parallel of latitude, extends southwards beyond the 27th parallel, and that the two Cordilleras which bound the plateau, the eastern and the western ones, branch off from the latter region into many ranges and independent groups which form valleys and rivers whose waters empty into numerous lakes and salt marshes, without communication with one another. The expressions "*divortia aquarum*" and "summit line," become, then, devoid of a precise meaning when applied to the regions we are dealing with. This appli-

cation has, however, been made frequently, and I do not consider it inopportune to establish as precedents the cases to which I am alluding.

In the boundary treaty with Bolivia of the year 1866, it was stipulated that "The line of demarcation shall be in future parallel 24° of south latitude, from the littoral of the Pacific as far as the eastern boundaries of Chile." This clause, like that which established the common zone between parallels 23 and 25, had for result, the appointment of an international commission of experts to demarcate on the ground the three parallels mentioned,—an operation which was carried out and is recorded in an Act dated May 11, 1870, where it appears that, besides several points between the coast and the Cordillera, Mounts Pular, Tomar, and Yuya-Yaco were determined "in the summit of the Andes" and in "the anticlinal line." In my exploration I have determined these same summits and I can say that, although the last is one of the highest of the Andes, the first two have numerous rivals in the most western ranges.

Owing to the difficulties caused by the Bolivian Expert, and other difficulties, the Protocol of 1872 was signed, Article I. of which says: "That the eastern boundaries of Chile mentioned in Article I. of the Boundary Treaty of 1866 are the highest summits of the Andes."

Undoubtedly this expression was found inexplicit (as in fact it is) when the Treaty of August 1874, was drawn up, Article I. of which says: "The parallel of the 24th degree from the sea as far as the Cordillera de los Andes in the '*divortia aquarum*' is the boundary between the Republic of Chile and Bolivia." The demarcations of the Experts of 1870 were accepted for the effects of the Treaty, it being tacitly agreed that the summits quoted were to be found on the *divortia aquarum* of the Andes.

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The Treaty of Limits with the Argentine Republic is more explicit than those just quoted (the Agreements with Bolivia in 1866 and 1872) . . . as it said in Art. I. : “ The boundary line shall run in that extent along the highest summits which divide the waters and shall pass between the sources that flow down to either side.” Therefore, *the summits which do not divide the waters are not to be included in the boundary line* ; but it is presumed that there exists therein only one *divortium aquarum* all along the extent of the Cordillera.

Quoted
p. 354.

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ALEJANDRO BERTRAND.

No. 36.

FONTANA'S EXPLORATION IN SOUTHERN PATAGONIA.

[Extracts translated from the account given by the Governor of Chubut, Lieut.-Col. Luis Jorge Fontana in "*Boletín del Instituto Geográfico Argentino*," vol. vii., 1886, pp. 223-284.]

(Quoted on pages 368, 1317, and 1411 of the Statement.)

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(P. 225) On the 15th of May of the same year [1885] I started from the capital with my appointment and instructions received from the hands of His Excellency the Minister of the Interior, Dr. Don Bernardo de Irigoyen, to whom I am indebted for the greatest consideration.

On the 28th of May I arrived at Rawson, and I spent the winter in getting acclimatized, in carrying out small explorations along the coast of the sea, in getting acquainted with the inhabitants and studying their necessities and customs, in establishing the Gobernacion and the offices under its dependency which have been working with perfect regularity during the rest of the year, and in searching for data and materials for the expedition to the interior of the country which I had in view.

The Welsh colonists, confined in the unproductive lands they cultivate and lacking sufficient water to irrigate them, had been anxious for the last 20 years to become acquainted with *the valleys of the Cordillera*, the exuberance of the vegetation of

which had been communicated to them by the Tehuelche Indians, who yearly reached those settlements to engage in commerce with the colonists. The friendly Indians informed them that in the interior of the Chubutian region was a paradise—and the climate temperate and healthy, that rivers ran in all directions and that the variety of trees and fruits was great.

The excited imagination of the Welsh pictured an Eldorado and it made them sad to see that their plough continued to furrow hard and dry land.

Many young men who had read the account of Musters' voyage from Punta Arenas to Rio Negro, passed hours of their lives thinking of the florid regions on the slopes of the Andes, gazing at the sun descending as a golden rain across that enchanted region which they so much desired to know.

Sometimes the height of their enthusiasm had led them to *the temerity of attempting to overcome the wall of granite which separated them from the fertile lands* which might bring them good fortune and riches, but the lack of resources at times, and at others the spear of the Indian which brings death to the invader, had again enveloped those regions with a mysterious veil stimulating the ambitions to which they gave rise.

For this reason, on my arrival in the territory and learning that I intended to carry out an expedition to the Cordilleras with the idea of studying this region, their constant aspirations were renewed. . . .

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(P. 226) I must above all observe that the territory of Southern Patagonia comprised between the Atlantic Ocean and the Cordillera and between parallels 42° and 46° of south lat., an extent which includes the territorial boundaries of the Gobernacion del Chubut, was until then, almost in its entirety, completely unknown, and the very part of which information was possessed had not been well studied as I am going to show.

Let us see what contemporary travellers and historians of Patagonia say, who, besides the knowledge personally acquired, have read, compared and commented upon everything that has been written in respect thereto.

I shall commence by the travellers and explorers, my friends, *Dr. Francisco P. Moreno*, Director of the Museum of La Plata ; *Don Ramon Lista*, Under-Secretary of the Ministry of Marine, and the Naval Officer, *Don Carlos Moyano*, the present Governor of the Santa Cruz territory.

Moreno in his book entitled, "*Viaje a la Patagonia Austral*," writes as follows on page 33: "The hydrographical system of the Chubut is little known. The various geographical maps in circulation are almost all in accord in locating *the sources of this river about the 43° of South lat.*, making it describe an almost straight line to the east as far as the ocean ; but the material on which those maps have been constructed, is worthy of so little credit that the situation of such an interesting point of the *geography of Patagonia* can even be doubted.

"Captain Musters' journey contains the data worthy of most credit hitherto published upon the numerous unexplored branches of the Chubut, branches which *the English explorer has crossed at their sources.*"

And further on he adds : " Besides, the last point which the Chilean expedition reached and the road taken by Musters are not astronomically determined. Whoever studies this question is perplexed when observing that two naval officers like Musters and Simpson are not in accord in their tracing."

Then, when ending the chapter wherein he gives scanty information with respect to the basin of the River Chubut and to the hydrographical system of this region in general, he expresses himself thus : " With all the foregoing the hydrographical basin of the Chubut is described ; and I have sketched it, in its greater part, with the aid of data which I have obtained from verbal information from the colonists, from Mr. Durn-

ford, from Musters' diary, from the Indians, and from the little I have seen."

Lista, giving also some general ideas in this respect, says on pages 25 and 26 of his last book, entitled "*Exploracion de la Pampa y de la Patagonia*," that the Senguel has very superficially been explored, and afterwards adds that its sources were discovered by Captain Musters.

This last statement is inaccurate, because Musters never saw the sources of the said river as may be ascertained by reading his book and by examining his itinerary.

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(P. 229) From these deductions, made as the pen runs, but which are sufficient to carry conviction owing to their logical character, it appears that, from what has been published up to now in regard to the hydrography, geography and geology of the interior of this region, whether taken from old books or plans, or whether based on the word of the English captain, George Chatworth Musters, or on the news obtained from the Indians, it lacks in its greater part truth and precision, there being accepted as accurate only the remarks of Moyano with respect to the correct calculations—and as to the descriptive part, the assurance given by Musters and Roa that the valleys, plains and forests adjacent to the Cordilleras constitute an adequate and important region for the settlement of man and subsequent development of industries.

This, it is well understood, concerns the *Andean region*, for in the opposite district which reaches to the Atlantic, Moreno, Lista and others, have rendered invaluable service to geography and to the country by the interesting information they give in the narratives of their journeys.

But, as, in the enumeration of the works which I consider as lacking scientific authority, I quote Musters' book precisely—considered by all as the work containing the data most worthy of credit hitherto published upon the numerous unexplored

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ramifications of the River Chubut (ramifications which the British explorer crossed below its sources and not at them, as ascertained by Moreno),—I deem it a duty, in justice to the distinguished traveller who traversed the greatest extent of Patagonia before us, to mention that the British Captain, George Ch. Musters, a distinguished Naval officer, gifted with talent and courage, effected a journey from the colony of Punta Arenas to Carmen de Patagones—accompanying, or better said, forming one of a tribe of Tehuelches Indians—and that he, who had never travelled over the immense deserts of South America, undertook the realization of a project full of difficulties and dangers—placing himself unconditionally in the hands of the Indians for a whole year, during which, no matter what his destiny might be, he could not get rid of them, nor communicate with other persons. . . .

* * * * *

(P. 231) With what I have said, I believe to have amply demonstrated that this territory was very little known, and that the journey of which I am giving an account, carried out with the deliberate object of effecting a detailed reconnaissance, is what has given most conclusive and precise results, especially as to the geographical part and the natural conditions of the soil in its economical connections for the future settlement of man.

I have not copied anybody ; these are my own observations, all obtained on the ground itself and in the presence of things, and, if my work is deficient in parts, it must be attributed to my modest acquirements and to the deficient materials which I counted upon.

The report and the maps I have the honour to present to Y.E. and which I dedicate to H.E. the President of the Republic, describe with rigorous accuracy the region which I have traversed step by step, leaving blank the points I have neither trodden nor set eyes upon ; but, as to the regions visited, the

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work referred to can, and deserves to be reputed as the most faithful expression of the truth.

* * * * *

(P. 246) In writing the history of the antecedents which gave rise to my expedition, I wish to detain myself afterwards to examine the lower part of the territory and thus the narrative of *my journey to the Cordillera* was interrupted. I therefore resume these preliminaries and I continue.

* * * * *

(P. 252) At 11 a.m. on the 22nd (November, 1885), we found ourselves at the foot of a hillock, its height preventing us from discovering what we had before us.

We commenced to climb this hillock, which was higher than the previous one and was some 200 metres in height.

The ascent lasted an hour and, when reaching the summit, an exclamation spontaneously made by each of the men forming the expedition, revealed our surprise at the unforeseen spectacle which suddenly met our view.

At first, at the foot of the plateau on which we were, we saw a large lake [Lake Cronómetro] with rushes, in which hundreds of gulls of greyish-white body and with black heads, were to be seen flying about, as well as several swans swimming—and on the shores a flock of flamingoes showing the superb pink colour of their feathers.

Then, raising our eyes, a splendid region was discovered where prairies covered with green alternated with forests and swift brooks.

The dark patches of *the very high ranges* which we had seen on the previous day, we saw transformed into dense forests, and the dark green patches with white in the centre which descend meandering from the top of the *snowy summits*, were crystalline brooks bordered by trees which shade them and which accompany the sonorous current of the waters perfumed with

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the odour of their flowers, until flowing into the plain of the valley where they branch off to join new silvery streams, and thus united, form a larger river.

We descend to the plain and seeing the object from close range, everything increases in beauty ; the land, above all of excellent formation, is so loose and rich in growing qualities, that it seemed as if the plough had recently furrowed it ; it is, without exaggeration, something like the vegetable mould of our gardens and it bears an abundant forage of different kinds which reaches up to the breasts of the horses.

After this it causes real surprise to find immense strawberry patches, enough to supply any extensive population, exquisite flowers on all sides, so much so that in less than half an hour over 30 species were collected, and the colonist Wagner presented me with a bouquet worthy of a drawing-room or of the dressing-table of an elegant lady.

We were therefore *in the mountains of the Pre-Cordillera, the snowy peaks of which we had seen* some days before from the Gruta de las Lechuzas.

The night was spent without any noteworthy circumstance, but the majority of us could not sleep owing to the impression which the beauty and natural richness of that region had produced upon us, as to the future of which no doubt can be entertained after having visited it.

At the first moment, one is astonished to see that so much grandeur should have remained until now [1885] hidden to civilized and enterprising man ! But who could have supposed that, beyond the inhospitable shores of the sea and at *the foot of the chain of the Andes*, in the most distant and solitary region of our territory, there should have been found this extent of ground so beautiful in shape, full of natural richness, with such a temperate and healthy climate, irrigated in all directions by courses of endless water ?

Many thousands of people can live here happily and com-

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fortably, who in other parts of the world live uncomfortably without finding equitable compensation for the efforts of their activity. . . .

To this first valley of the Pre-Cordillera we gave the name of Valle de las Frutillas, and the second one, where a river flows which, rising from a high lake, runs from west to east, changing its course suddenly in a westerly direction, we named Valle de los Corintos.

Quoted
P. 1317.

This river I have taken the liberty of calling by the name of Perez Marchena, in memory of one of my ancestors, the humble friar of the convent of Ravida, who helped the immortal Columbus in his preparations previous to the discovery of the New World ; and the lake giving origin to it I have called Rosario, in homage to Senora Rosario Bustamante de Palacios, worthy of this deference and of any honour, by reason of her being a distinguished Argentine lady, full of virtues, really patriotic and the angel of a noble home ; and to me something more, since Senora de Palacios nursed me with maternal affection in the first days of my life. .

The Valle de los Corintos stretches to the south of the mountain called Pico de Thomas, the name of one of the first settlers of the territory, and one who has always taken the greatest pains in the knowledge and progress of this region, having defrayed the cost of several explorations with this object.

Thence, following the said river, we penetrated into *the superb valley of the Southern Cordillera* which we solemnly named " VALLE DIEZ Y SEIS DE OCTUBRE," in memory of the day of that date [October 16th] in the year 1884, on which the honourable Congress of the nation sanctioned the law creating the Gobernaciones of the national territories.

Quoted
P. 317.

Traversing this extensive region we were able to confirm the previous observations of Darwin and those of Moreno respecting the existence of a depression in the region stretching from south to north at the foot of the Cordillera.

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In fact, there is to be found there a manifest depression of the ground in the shape of an immense basin, in the centre of which seven rivers join,—three of them large,—and those waters, flowing through a deep breach in the mountains, form the large river Corcovado which, crossing the Andean chain, falls smoothly into the central valley of Chile to empty itself into the Pacific Ocean by the Gulf of this name.

This river, the sources of which, until then unknown, we have ascertained to be in Argentine territory, seemed to us, at the first moment, a lake which might give origin either to the Chubut or to the Senguel, according as it ran between the mountains southwards or northwards, but we have followed it beyond 73° of longitude, where we took the photographic view which I enclose to Y.E.

The River Corcovado at the point where it is formed, $43^{\circ} 20' 23''$ of latitude and $72^{\circ} 42' 35''$ of longitude [really $71^{\circ} 33'$], measures 150 metres in width, and runs with an initial velocity of 2 miles an hour, its level being at its normal height 480 metres above the sea, it being apparently deep, these observations having been made in the last half of the month of November.

We lacked boats to carry out soundings and to explore the stream; owing to this lamentable circumstance we confined ourselves to following it up, along its southern bank for 15 miles, over a small well-wooded valley of 1200 metres in diameter where we killed some huemules and wild cows.

At first, the river starts with a westerly course for two miles at which point it deviates somewhat to the S.W. some 10 degrees.

The first ten miles we traversed on horseback and the last five on foot, going into this patch of 1000 metres, where we had to crawl *owing to the thickness and entangled nature of the forest*, from which we came out with our clothes in rags and our faces and hands lacerated by the branches of the trees and thorns of the “*Urtica Magna*.”

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The cattle tracks stretched in opposite directions and it was impossible to go on further without the aid of good hatchets to open paths.

I lacked these implements as well as soldiers to carry out such an arduous work.

I therefore had to return from 73° [$71^{\circ} 50'$] of longitude, *it being quite possible that I should have been at a short distance from the sea*, the view of which was intercepted from me by the trees and mountains, *although at that point the latter were already getting lower.*

I entertained the hope of returning better provided and then this very important point of our geography, as well as others, full of interest, which it was materially impossible for me to reach, in spite of my decided intention and wish, will be definitely cleared up.

The Pre-Cordillera is formed by a chain of high mountains, but of less importance in proportion to the *real Andean chain*, which it follows parallel from north to south at a distance of 15 leagues, although sometimes at a greater distance becoming confounded at many points. Quoted
p. 1317.

Between these two enormous barriers that form the axis of the American continent, there are narrow valleys as well as extensive fields watered by clear streams which flow down from neighbouring summits which are always snow-clad. Quoted
pp. 368, 1317.

But these gigantic heights are covered by a thick forest which renders the passage from one valley to the other very painful, completely hiding the ground from the eye of the observer. . . .

(P. 267) The sources of the largest river existing in this part of Southern Patagonia having been geographically located, we attempted to climb to the north the *enormous base of the Cordillera* until meeting with the two branches, western and northern, of the River Chubut which were unknown to us. Quoted
p. 1411.

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But every attempt was useless because, to achieve our object, we had to traverse swampy ground and to open in some parts paths across the forest.

Thus, having been deterred after a march of five leagues, we returned to our camp, effecting similar attempts towards the south with the object of reaching, if possible, the 46° of latitude.

But in our complete ignorance regarding the ground we did not know that such an idea was wholly impracticable.

However, with a perseverance which tested our powers of endurance, we started across mountains, bamboo patches, and very dense forests, wherefrom we returned nine days later, completely exhausted and surprised to see ourselves without any injuries to speak of, so many had been the blows we had received.

However, as a reward for so much exertion, we had discovered a fertile valley, a river which flowed from north to south, and six brooks and a lagoon which increased the volume of the river, which, altering its course to the east, runs into another larger river some 80 metres wide, with a stony bed, which flowed as resolutely as the Corcovado through a passage which the gigantic Cordillera offered to it in the mystery of that solitude.

In the afternoon of the 9th of December I found myself for the second time on the banks of the Charmate, and following it on my way south I halted a week after at $43^{\circ} 30'$ and $71^{\circ} 42'$ [$70^{\circ} 51'$] of longitude, a point where the valley with a width of 6 kilometres bifurcated.

Along the left portion of it another river, which we followed up stream, *descended from the Pre-Cordillera* with a S.W. course, and along the one on the right, another less voluminous river flowed from the S. 2° W. . . .

(P. 271). From the camp mentioned, we continued our march to the south, crossing another river [Rio Shámon]

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also of the Pre-Cordillera, which, joining the Quinnua [Jénua] 38 kilometres to the S.E., increases its waters in a short space, as far as $44^{\circ} 7'$ of S. latitude and $71^{\circ} 5'$ of longitude of the meridian of Greenwich, where it disappears, emptying into the Senguel. . . .

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EVIDENCE AS TO THE OFFICIAL CHARACTER OF THE MAPS ISSUED BY THE ARGENTINE GEOGRAPHICAL INSTITUTE.

[Translation of extracts from the Bulletin of the Institute.]

(Mentioned on pages 371 and 1347 of the Statement.)

ON June 12th, 1884, the President of the Republic, General Julio A. Roca, sent a Message to Congress, in which he said that, having paid a visit to the offices where the Geographical Institute has been at work since 1882 on the Atlas of the Argentine Republic, both he and his Minister of Public Instruction were highly pleased with the work.

The Message says :

“ The publication of the Atlas will involve an outlay of 25,000 pesos, and the Geographical Institute has asked the Minister of Public Instruction to grant it a subvention of 10,000 pesos for this purpose ; but the Executive, believing that it is the duty of the Government to patronize in every way a work of the Institute answering so useful a purpose, one destined to supply a necessity so much felt, and saving the State the heavy expense that the execution of such a work would have occasioned, if officially conducted, has arrived at an agreement with the Directive Commission of that Institution on the following general basis :

“ 1. *The Argentine Geographical Institute makes over to the National Government the first edition of the Atlas of the*

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Argentine Republic drawn up by the Society . . . ” (Introduction to the text of the Atlas, page 4).

The message goes on to state the other stipulations agreed upon, as to the payments of the expenses incurred by the Institute for this work, explains the composition of the Atlas, and concludes by requesting the approval of a project of law, the first article of which reads thus :—

“ The Executive is hereby authorized to disburse as much as 25,000 pesos for the printing of the Geographical Atlas of the Republic drawn by the Argentine Geographical Institute.”

This project was approved and promulgated as law on September 18, 1884 ; and on October 20 of the same year the Executive put the law into execution by a Decree as follows :—

“ Art. 1.—There shall be placed at the disposal of the Commissioner of the Argentine Geographical Institute, Dr. Estanislao S. Zeballos, the said sum of 25,000 pesos.

“ Art. 2.—The same Institute is entrusted with the printing and sale of the Atlas, of which 500 copies must be delivered to the Ministry of Public Instruction ; and the product of the same is to be devoted to the prosecution of the studies and surveys necessary for the further improvement of the Atlas and of the general Map of the Republic which has served as the basis for it. . . . ”

ROCA.

E. WILDE.

At a sitting of the Directive Commission of the Institute which took place on May 31st, 1886, a note from the Atlas Special Commission was read, proposing amongst other things, a title for the work. After some discussion the following was adopted :—

“ Atlas of the Argentine Republic constructed and published by the Argentine Geographical Institute *with the co-operation of the National Government*. Technical Director, Arturo

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Seelstrang, a Fellow of the Institute, and head of the Cartographical Office of the same." (*Bol. Inst. Geogr. Arg.* vol. vii., page 167.)

At a sitting of the Special Commission of the Atlas in February, 1886, the head cartographer, Señor Seelstrang, had proposed that neither on the title-page nor on the cover of the Atlas should the National Arms be engraved. "General Mitre opposed this, alleging that, as *the compilation of the Atlas was a quasi-official work and defrayed by the Government*, the National Arms could not be dispensed with. After some discussion the motion of Señor Seelstrang was not accepted." (*Bol. Inst. Geogr. Arg.*, vol. vii., page 213.)

At the sitting of both Commissions, Directive and Special, on July 16th of the same year, Señor Seelstrang requested that the title of the Atlas should be reconsidered. After a long discussion in which all the members took part (including General Mitre and Dr. Zeballos), it was resolved that the title of the Atlas should be as follows :—

"Atlas of the Argentine Republic constructed and published by the decision of the Argentine Geographical Institute, *under the patronage of the National Government*, and drawn by Arturo Seelstrang, Member of the Institute."

At the same sitting it was decided :—

" 1. To include the Falkland Islands in the Atlas as an integral part of the Republic.

" 2. To consider also as Argentine all the Misiones territory, comprised between the two Rivers San Antonio, and the two Rivers Pepiri.

" 3. To consider the Tarija territory in the north to be in the same case.

" 4. To adjust itself in other respects to the Treaties in force.

“ General Mitre was deputed to give these instructions in writing to Señor Seelstrang, the constructor of the Atlas.” (*Bol. Inst. Geogr. Arg.*, vol. vii., page 215.)

At the sitting of the Special Commission of the Atlas on July 29, 1886, an account was given of :—

“ 3. A report of Señor Seelstrang referring to a petition of the lithographers as to the modifications which were made after the conclusion of the engraving of the plates, thus causing such loss of time that they would probably be unable to terminate the work within the period fixed.” (*Bol. Inst. Geogr. Arg.*, vol. vii., page 285.)

In the record of the sitting of the Special Commission of the Atlas on December 31st, 1886, we read :—

“ 12. A note from the head of the Cartographical Office of the Institute, stating that he is sending by mail the originals of Plates 14 and 25, the first representing the Provincia de San Luis and the second the Gobernacion de Chubut. The same note contains the following : “ In the map of the Chubut “ a serious difficulty arises with regard to the boundary with “ the Republic of Chili. The treaty of 1881, already published “ in the *Boletín del Instituto* (tomo ii. paj. 81) says respecting “ this : *The frontier line shall run through that extent along the “ highest summits of the said Cordilleras which divide the waters, “ and shall pass between the sources [vertientes] that flow down “ to either side.* It is thus lawful to doubt, as many distinguished “ Argentines do, whether the high contracting parties intended “ that the boundary between both countries should be traced “ along the valleys of the Rivers Aisen, Huemules, Bodudahue “ and Puelo, which should be left within Argentine territory, “ or whether, on the contrary, they have fixed the true water- “ parting as the boundary line. I have traced both lines on the “ map, the first in black and the latter in red, leaving it to the “ better judgment of the commission to decide on so important

Quoted
p. 37a.

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"a matter." In view of this, it was agreed that General Mitre and Dr. Zeballos should hold a conference with the Minister for Foreign Affairs of the Republic, so as to obtain an official line with respect to the points complicated and consulted. (*Bol. Inst. Geogr. Arg.*, vol. viii. page 70.)

* . * * * *

"By decision of the Directive Commission we give publicity to the note addressed by the Institute to the National Government with reference to the communication from the Department of National Engineers :

Buenos Aires, September 17th, 1887.

*To His Excellency the Minister of the Interior,
Don Eduardo Wilde.*

"By decision of the Argentine Geographical Institute I have the honour to address Your Excellency with the object of determining the importance to be attached to the assertion made by the Department of Engineers in the note to Your Excellency which was published on the 15th inst. It is said therein that the Department does not fix any boundary with the neighbouring countries, thus avoiding the great defect of *official publications*, as that of the map by Tourmente and Seelstrang based on official data, and *the first part of the Atlas of the Republic by the Geographical Institute.*

"The information contained in the first part of the Atlas of the Republic only represents the geographical knowledge possessed by the Institute at the time of publication, and in no way fixes the divisional boundaries of this Republic with that of Chile, the same being determined by the Treaty of July 23rd, 1881, and to be duly determined by both Governments by geodetical operation, and other proceedings prescribed by the said Treaty.

"Besides it is not possible, with undue haste to indicate serious defects with respect to the lines drawn on the sheets

published, because, as is well known, they must be explained in a historical, geographical, and descriptive report with which the Atlas of the Republic shall be supplemented, and which shall be drawn up, in accordance with all the precedents referring to boundaries, by the Special Commission under whose direction the work is being carried out, and which is composed of people whose knowledge in the matter is of public notoriety.

"The Geographical Institute has spared no effort to collect such data and antecedents as may serve the purpose mentioned, and they have often applied to the Department of engineers, with reiterated orders from your Ministry, for the information which that office might supply, without having received as yet any contribution in this respect.

"Thus the facts leading the Department to point out defects in the publications referred to must be of very recent origin, and the Institute once more applies to Your Excellency in order that these and all others that may be useful should be supplied to it.

"With the most distinguished consideration, etc.,

LUIS A. HUERGO, PRESIDENT,

ENRIQUE TOURNU, SECRETARY." (*Bol. Inst. Geogr. Arg.*, vol. vii., page 270.)

At the sitting of the Directive Commission of the Institute on September 17, 1887, Señor Alejandro Sorondo read a note addressed by the Department of Engineers to the National Government, in which it was said that the first part of the Atlas of the Republic contained errors in the portion referring to the boundary of the country.

"In regard to this Señor Sorondo said that it was most necessary that the Institute should not remain silent under this imputation of the Department, and moved that a note should be addressed to the National Government refuting what was asserted by the said Department. After a long and learned

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discussion in which Señores Huergo, Sorondo, Moyano, Ruibal, Cernadas and Alsina took part, it was unanimously agreed that the President should answer the note in such terms as he should deem most fitting." (*Bol. Inst. Geogr. Arg.*, vol. viii., page 299.)

No. 38.

INTERIOR BOUNDARIES OF THE CHILEAN DEPARTMENT OF LINARES.

[Extracts translated from "*Echeverría y Reyes*," *Jeografía Política de Chile*, Santiago, 1888, vol. 1, pages as given below.]

(Quoted on page 385 of the Statement. See also Pl. XI., facing same.)

SANTIAGO, October 16th, 1885.

(P. 294) In view of the preceding note,

I DECREE :—

The Department of Linares of the Province of the same name is hereby divided into the following sub-delegaciones which shall have the boundaries, names and No. of order to wit :

SUBDELEGACION NO. 7, OF COLBUN.

(P. 297) This subdelegacion is delimited on the north by the River Maule ; to the south by the subdelegacion of Yervas Buenas and Putagan ; to the east by *the Cordillera de los Andes* ; to the west by the subdelegacion of Arquen.

SUBDELEGACION NO. 9, OF PUTAGAN.

(P. 298) It is delimited on the west by the junction of the Rivers Putagan and Rari ; on the north by the River Rari and the summits of the Cerro de las Toscas, the boundary deviating towards the River La Puente and towards the Manzanal, going

along the high edge of Mount Retamal and continuing towards the Vallical gap, and thence deviating to the north of the slope of the Cordillera de San Pedro and of the Potreros de Herrera, Saso and Rodriguez, as far as the gap which divides the Potrero de Troncoso from the Lake Maule ; *on the east by the Cordillera de los Andes following southwards as far as Saco Pass* ; on the south, to the west of Saco Pass, by a rivulet which rises there and the summit of the Cordillera de la Loma de Leiva in direction of the hills of the Potrero de la Escalera, the southern part of Hoyada Seca ; from this point as far as the boundaries of Cerro Negro with the headwaters of Potrero Grande, continuing west towards the ford Peñasco in the River Ancoa, and from this point by the public road and the Alarcon Gap until striking the River Putagan which shall serve as a boundary as far as its junction with the Rari.

SUBDELEGACION NO. 11, OF VEGA DE SALAS.

(P. 300) It is delimited on the north by the Rio Ancoa ; on the south by the Achihuenu ; on the west by the subdelegacion of Ancoa ; and on the east by the *Sierra Nevada*.

It is divided into three districts :

District No. 1, of Vega de Ancoa.—It is bounded on the north by the River Ancoa ; on the south by the range of hills which separates the Valley of Vega de Ancoa from that of Vega de Salas ; on the west by the same subdelegacion at that part comprised between the range of hills which serves the district as southern boundary and the River Ancoa ; and on the east by *the Sierra Nevada*.

District No. 2, of Vega de Salas.—It is bounded on the north by the range of hills which separates this valley from that of the Vega de Ancoa ; on the south by the Pejerey rivulet and the River Achihuenu ; on the west by the same subdelegacion, at that part comprised between the range of

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hills which separates this district from that of the Vega de Ancoa and the River Achihuenu ; and on the east by *the Sierra Nevada*.

District No. 3, of Los Guayes.—It is bounded on the north by the Pejerey rivulet which separates it from that of Vega de Salas ; on the south and west by the River Achihuenu ; and on the east by the *Sierra Nevada de la Cordillera*.

SUBDELEGACION NO. 13, OF SAN JOSÉ.

(P. 301.) It is delimited on the west by the eastern line of the 6th “Hijuela” of Longaví from the River Longaví as far as the Achihuenu ; on the south by the River Longaví as far as the junction of the River Blanco, *and from this point* [by the same river] *as far as its source* and the Sierra ; on the north by *the Achihuenu and the Sierra* ; and on the west by *the Sierra Nevada of the Andes*.

It is divided into two districts :

District No. 1, of San José.—It is bounded on the west by the same subdelegacion, from the River Longaví as far as the Auque ; on the south by the River Longaví ; on the west by a line which turns to the north from the Angostura along the Buitre ridge as far as the plateau which bounds the lands called Los Mogotes, as far as the boundary of the 6th “Hijuela” ; and on the north by the Auque as far as the plateau (Meseta).

District No. 2, of the Loma de Vasquez.—It is bounded on the west by the Buitre range as far as the “Meseta” ; on the north by this “Meseta” and the line of the 6th “Hijuela” as far as the Achihuenu ; on the east by *the Sierra Nevada* ; and on the south by the River Longaví.

* * * * *

SANTIAGO, September 27th, 1888.

(Pp. 304, 305.) In view of the preceding note and the report of the Municipality concerned,

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I DECREE :—

District No. 3, Llepu of the 12th Subdelegacion, Ancoa, of the department of Linares is hereby segregated from it and included in Subdelegacion No. 11, Vega de Salas. This subdelegacion shall be delimited on the north by the River Ancoa ; on the South by the River Achihuenu ; on the west by a dry arm or branch which connects the River Ancoa with the River Achihuenu ; and on the east by *the Sierra Nevada*, and shall be composed of four districts :—

District No. 1, of Llepu.—It shall be delimited on the north and west by the River Ancoa ; on the south by the River Achihuenu ; and on the east by the subdelegacion.

District No. 2 of Vega de Ancoa.—It shall be delimited on the north by the River Ancoa ; on the south by the range of hills which separates the valley of the Vega de Ancoa from that of the Vega de Salas ; on the west by the same subdelegacion at that part enclosed between the range of hills which serves as the southern boundary to the district and by the River Ancoa ; and on the east by *the Sierra Nevada*.

District No. 3, of Vega de Salas.—It shall be delimited on the north, by the range of hills which separates this valley from that of the Vega de Ancoa ; on the south by the Pejerey rivulet and the River Achihuenu ; on the west by the same subdelegacion in that part comprised between the range of hills which separates this district from that of the Vega de Ancoa and the River Achihuenu ; and on the east by *the Sierra Nevada*.

District No. 4, of Guayes.—It shall be delimited on the north by the Pejerey rivulet which separates it from that of Vega de Salas ; on the south and west by the River Achihuenu ; and on the east by the *Sierra Nevada of the Cordillera*.

The subdelegacion of Ancoa shall be delimited on the north by the two “ subdelegaciones urbanas,” the boundary deviating towards the east along the public road which starts in the

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town of Linares, towards the mountain until meeting the River Ancoa, which shall separate the subdelegacion of San Antonio from that of Vega de Salas; on the south by the River Achihuenu; on the west by the River Ancoa and the public road which leads to the town of Parral, in the part comprised between the Ancoa and the town of Linares; and on the east by the River Achihuenu and the Ancoa, and by a dry branch which in time of flood connects these two rivers; and it shall be composed of two districts: District No. 1, of Guapi; and District No. 2, of Llancañao; the boundaries being those stated in the decree of October 16, 1885.

Let it be recorded, communicated and published.

BALMACEDA.

P. L. CUADRA.

No. 39.

INTERIOR BOUNDARIES OF THE CHILEAN DEPARTMENT OF CORRAL.

[Extracts translated from "Echeverría i Reyes," "*Jeografía Política de Chile*," Santiago, 1888, vol. 1.]

(Quoted on page 387 of the Statement.)

(P. 35) Territorial demarcation of Llanquihue, Osorno and Carelmapu.

SANTIAGO, October 3, 1863.

In view of the notes of the Intendente of Llanquihue dated the 16th of April and 29th of May of the present year, and exercising the authority which Article VI. of the Law of 22nd of October, 1861, grants me,

I DECREE :—

1.—The following project of territorial demarcation of the departments of Llanquihue, Osorno and Carelmapo is hereby approved.

2.—The department of Llanquihue shall be divided into five subdelegaciones, and shall be bounded on the north by the Lake and River of Rahue; *on the east by the Cordillera de los Andes; on the south by the River Puelo and Reloncaví Inlet*; and on the west by the River Maipu, from its junction with the River Negro as far as its confluence with the River Rahue, and by a line from the junction of the Rivers Negro

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and Maipu, as far as Huatral Point passing by the Maullin Falls.

* * * * *

(P. 37) 6.—The fourth subdelegacion shall be called Reloncaví and shall have for boundaries: on the north, the Lake Todos los Santos with its affluents and outlet until facing Mount Calbuco; *on the east, the Cordillera*; on the south, the River Puelo; and on the west the sea, the Rio Chico de Pelluco and Mount Calbuco.

(P. 67) SUBDELEGACIONES AND DISTRICTS OF VALDIVIA.

SANTIAGO, November 4th, 1895.

In view of the preceding note,

I DECREE :—

The department of Valdivia is hereby divided into the following subdelegaciones and districts.

* * * * *

SUBDELEGACION NO. 4. CORRAL.

(P. 68) Boundaries: on the north, an imaginary line traced from the sources of the Santa Maria rivulet in a western direction towards the sea; *on the east, the water-parting line of the Cordillera de la Costa and the River Valdivia from the Cutipay to the Cantera, this river all along its course as far as Tres Bocas, and the water-parting line of the mountains which, beginning at this point, forms the separation between the Rivers Futa and Ainaguilan* as far as the southern boundary of the department; on the south, the boundaries of the departments; and on the west, the summit of the Corral Cordillera as far as Guapi Inlet.

Quoted
pp. 388
and 389.

It shall be divided into three districts :—

District No. 1, Corral.—Boundaries: on the north, Corral Bay as far as the Fronton; on the east, the summit of the

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mountains which separate the San Juan Inlet and the River de los Llanos from the Rivers Poco Comer and Ainaguilan; on the south, the boundary of the department; and on the west, the summit of the Cordillera del Corral.

District No. 2, Mancera.—Boundaries: on the north, the River Valdivia as far as the Cantera; on the east, the same river and *the water-parting line between the Rivers Futa and Ainaguilan*; on the south, the boundary of the department; and on the west, the eastern boundary of district No. 1. Quoted
p. 389.

District No. 3, Niebla.—Boundaries: on the north, those of the subdelegacion; on the east, the same as far as the river Valdivia; on the south, that river; and to the west, the sea.

* * * * *

SUBDELEGACION NO. 6. ANGACHILLA.

(P. 69) Boundaries: to the north, the Gualve, which serves as a southern and western boundary to subdelegacion No. 2, and the River Calle-calle, as far as Peña del Diablo on Soto Hill; on the east, *the water-parting line between the Rivers Calle-calle, Angachilla and Futa*; on the south, the department of La Union, separated by the Luma Hills and the Tregua rivulet as far as its junction with the River Futa, and, from this point, an imaginary line as far as the Cordillera de la Costa; and to the west, the eastern boundary of the subdelegacion of Corral.

It shall be divided into three districts:—

District No. 1, Angachilla.—Boundaries: on the north, the Gualve, which serves as a boundary to the first subdelegacion; on the east, the new road which goes to La Union, as far as the entrance to the Valley del Rincon; on the south an imaginary straight line drawn from this point to Pichi, that place being included, and the branch of hills on the other side of the Futa until touching the western boundary of the subdelegacion, the Anjeles Island being included.

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District No. 2, Callico.—Boundaries : on the north, the River Valdivia, from the Torreon of the new road as far as the Peña del Diablo in Soto Hill; on the east, the boundaries of the subdelegacion ; *to the south, the water-parting line of the Rivulet Piedra Blanca and those of the Santo Domingo ; and to the west, the Union Road.*

District No. 3, Futa.—Boundaries : on the north, the southern boundary of district No. 2 ; on the east and south, those of the subdelegacion ; and on the west, those of the east of the subdelegacion.

* * * * *

SUBDELEGACION NO. 11, CARBO BLANCO.

(Pp. 71, 72) Boundaries : on the north, a straight line which, starting at the sources of the Santa Maria rivulet, runs to the west as far as the summit of the Cordillera of the coast ; on the east, the Rivulet Santa Maria along its whole course as far as the Garzas Rivulet, and, all along its course and the range of hills which commences at Revellin Point, as far as the sources of the rivulet which separates the land called Quitacalzon de las Garcias from that called de los Martinez ; on the south, *the same rivulet all along its course and the River Valdivia as far as the Cutipay ; and to the west, this latter river from its mouth as far as its source and, from this point, the water-parting line of the Cordillera de la Costa until meeting the northern boundary.*

Quoted
pp. 388
and 389.

This subdelegacion shall be divided into four districts :—

District No. 1, Ánimas.—Boundaries : on the north, the Santa Rosa for the whole extent of its course, and from its source, a line as far as the summit of the hills which delimit the subdelegacion ; on the east, the boundaries of the subdelegacion as far as the Quitacalzon Rivulet ; on the south, the boundary of the subdelegacion from the same rivulet as far as the Cau-Cau ; on the west, this latter river in its whole

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extent, and afterwards the Pichoy as far as the Santa Rosa Rivulet.

District No. 2, Cabo Blanco.—Boundaries : on the north, the River Pichoy from Tres Bocas as far as the Revellin ; on the east, the summit of the hill from the Revellin until reaching district No. 1 ; on the south the northern boundary of district No. 1 ; and to the west, the River Cruces from Tres Bocas as far as the Santa Rosa, the Culebra Island being included.

District No. 3, Molino.—Boundaries : on the north, the San Ramon Rivulet in its whole extent ; on the east, the River Cruces, from the point where the San Roman flows into it as far as the point where it joins the Valdivia ; on the south, this latter river as far as the Cutipay ; *and on the west, the Cutipay in its whole extent and, from its source, the water-parting line in the Cordillera de la Costa as far as the source of the Arroyo de San Ramon*, the islands, San Francisco, Mota and the rest which are separated by the principal branch of the River Cruces, being included.

Quoted
p. 389.

District No. 4, Tambillo.—Boundaries : on the north, the boundary of the subdelegacion ; on the east, the same boundary as far as Revellin Point ; on the south, the River Pichoy, from the Revellin as far as Tres Bocas, *the River Cruces as far as the Arroyo San Ramon, and this same rivulet as far as its source* ; and on the west, the boundary of the subdelegacion, Realejo Island being included.

* * * * *

No. 40.

DR. BRACKEBUSCH'S GEOGRAPHICAL WORK IN ARGENTINA.

[Translated from an article entitled, "A New Map of the Argentine Republic on the scale of 1 to 1,000,000" in "*Petermann's Mitteilungen*," 38 Bd. viii.]

(Quoted on page 398 of the Statement.)

(Further extracts from Dr. Brackebusch's writings are given under No. 115.)

WHEN the Argentine Government resolved, in the year 1887, to represent their country in a worthy manner at the Paris International Exhibition of 1889, it was also resolved to have a relief-map of this great region, on the scale of 1:500,000, prepared for this purpose. That such a work could not compete with the analogous works of countries already possessing excellent topographical maps executed down to the smallest details, was well understood from the outset ; for, such a map of the Argentine Republic did not exist. It is true that extensive tracts of land had been surveyed with more or less accuracy, either for cadastral purposes, or for dividing still uncultivated fiscal lands into so-called *lotes* ; but, for the districts that were mountainous, and therefore of chief importance in a relief-map, only exceedingly deficient material was available, the orographical features on the existing maps being but very superficially indicated. So that for the preparation of such a relief-map an individual had to be sought who was at least familiar with the mountainous country of Argentina from personal observation ; it was, therefore, a pleasant surprise

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to the author, who, as professor of mineralogy and geology at the national university of Córdoba, had made numerous journeys since 1875 into the mountains of the Republic for the purpose of geological studies, and had collected abundant topographical material based on measurements, when the work of compiling the relief-map was offered him by the exhibition committee. The work was executed in Europe under my direction, and was composed of 72 wood blocks, which were fixed on an iron frame representing a spherical segment with a surface of 36 square metres.

Now it was my original intention to publish the single sheets, corresponding to the blocks, on the original scale of 1:500,000. But the cost of such a work would have been very great, as it would have involved about 60 sheets (the other 12 merely represented water); I therefore decided to reduce the map to the scale of 1:1,000,000, although this was insufficient for the detailed knowledge I possessed of different districts. However, I had to subordinate my special wishes to other considerations, but, as I wished to produce a connected map, I also met with difficulties as regards its extent. For, it would have been 13 feet long, therefore much too large to hang on normal-sized walls; moreover the south-east part only represents a large sheet of water.

So I decided to divide the map into two parts,—the northern portion extending from $21\frac{1}{2}^{\circ}$ – 42° S. Lat., and the southern portion extending from 42° – 56° S. Lat. The first then took up 9 sheets, and the southern one (sparing the large expanse of water and bringing in the Falkland Islands claimed by Argentina, as an inset), 4 sheets, each about 80 cm. long, and 60 and 50 cm. broad respectively.

* * * * *

The lithographing of the southern part was taken in hand by Wagner and Debes of Leipzig, and of the northern part by C. Hellfarth of Gotha, who had executed my pro-

visional map of the "Interior de la Republica Argentina," in 1885. Whereas in the southern part I had to rely on other authorities in the absence of personal experience regarding the orography, that of the northern part (with the exception of the south-west corner) is exclusively mine; everywhere I tried to reproduce in shading the impressions I received of the different mountains on my travels, in which I was guided by the numerous bearing-points partly given below.

From many heights I had the opportunity of sighting the Chilean mountains; but the view that then usually presented itself agreed so little with its representation on Pissis' map, that I could not make up my mind to copy the orographical drawing of the latter, although I made this restriction very unwillingly, and with regret that I could not give the picture of the Cordilleras in its entirety. Yet, for want of better material, I have retained the situation of Chile (between 28° and 36° S. Lat.) as represented by that map, with a few alterations affecting the immediate border-districts. For the Atacama region I copied Bertrand's excellent map (1884) *in integro* (San Roman's new surveys [see my notice *Pet. Mitt.* 1890, p. 225] were not accessible to me until finished), but here too, I refrained from using the orographic information as even this map left me in the lurch for extensive tracts. The parts east of the Paraná and Paraguay are based on a compilation of the latest works thereon, and these are, with a few older ones, chiefly the following numbers in the list of maps at the end: 5, 6, 25, 29, 34, 36, 41, (unfortunately only accessible to me in a very indistinct photograph, so that I had to do without many illegible details), 74, 77, 82-84. I did not have to add anything myself for any part of this region, as, with the exception of the coast-district of Uruguay, I have not travelled over it. For the Paraná and Paraguay the locations of Rosario, Santa Fé, Paraná, La Paz, Goya, Corrientes, Asuncion, and Villa Occidental determined by the Cordoba Observatory, and

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mentioned hereafter, were used as starting points. I shall not enter more closely upon any part of this district in the following ; as land connected with navigation, a part of it has already been fairly well represented upon former maps.

Further, I shall likewise say nothing here of the whole region south of 35° S. Lat. On the one hand I have no knowledge of either, from personal observation, as I have already mentioned, and have had the maps in question compiled by others ; moreover this part possesses a literature of its own, entirely independent of the northern districts, so that it appears expedient to treat it in a special work ; I therefore also exclude the literature of it from the following list, and only mention such works as take in the districts lying north of 35° S. Lat.

(P. 181) From the commencement of my travels I made it my principle to miss no opportunity of taking the bearings with the compass of any conspicuous object (even if I did not know its name at the time), such as the peak or saddle of a mountain, a peculiarly coloured rock or spot, a single tree, a church-tower, a solitary house, and often mere columns of smoke (from foundries in the middle of a forest), as well as the direction of the roads ; what was done in the first part of the time merely with the pocket compass, was afterwards done more exactly with the telescope-compass. Whereas at first the magnetic declination taken by the surveyors operating in the different districts was adopted, I afterwards observed this directly at numerous points. In the first years, when I scarcely thought that I should ever be able to work so vast a region more thoroughly, I neglected to take astronomical observations, as the trigonometrical surveys seemed to me sufficient ; but when I afterwards penetrated further into the Cordilleras, when the fixed points once determined became more and more distant and the earth's curve made itself more and more noticeable, and when at last I had perhaps for a time no distant objects with

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which I could make a connection, then, if my surveys were to have any value, I required the help of a sextant and artificial horizon, in order to be able at least to determine the latitude. This was exclusively done in the latter years, principally at night time by the stars, as on the march in the day time I had not as a rule the necessary leisure, or the sun was often too high at midday for me to take observations. Only at points where I made a long halt was the sun also brought into requisition. . . I did not take astronomical observations for longitude, necessary as it seemed to me from time to time to be. But as I almost always travelled without any scientific accompaniment, I should have had to restrict myself to chronometrical observations. But the jolting back of the stubborn mule that formed my vehicle was not suited for carrying delicate watches ; and how could I have checked instruments exposed to so many contingencies on my journeys in the Cordilleras, which often lasted for months and took me every day into new districts ? I had to restrict myself to determining the longitude of points in the manner described above in some cases, and for the rest to derive the respective longitudes from the trigonometrical results of surveys. The errors inherent in these are far less than those resulting from an unreliable chronometer.

For determining the height above the sea-level of the various points I visited (I did not make trigonometrical measurements) I always carried, especially in the latter years, several aneroids and boiling-point apparatus ; mercurial barometers were much too cumbersome for me with my geological work ; but I missed no opportunity of comparing my instruments at places where the meteorological office of Cordoba had erected stations with standard instruments. Various levellings for projected railways that subsequently became known to me also served to control my observations. Only at places where I stayed for some time was I able to repeat the reading of the instruments frequently, in order to obtain a mean value ; at many

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points that I passed through hurriedly I had to limit myself to one reading ; at the best my night-quarters gave me an opportunity, at least in the morning and evening, of reading them at short intervals. The accuracy of the results of the calculation of the various observations may be reckoned as coming within 50 m. For the purpose for which the map is intended this is, in my opinion, quite sufficient, and detracts from its scientific character less than if I gave units and even decimals.

All the materials collected on my travels—not merely the numerous mineralogical and geological collections, but also the topographical data stored in a large number of diaries, and partly collected on high isolated mountains, often in the most awful storms—have, with very few exceptions, entered the calm haven of the study, I having lost altogether only two pocket-books which I had begun, and which were replaceable ; great hardships, often away from civilization, and manifold dangers have been happily overcome without harm to body or soul ; my wish to throw more light on districts hitherto but little known, and some of them even, at least scientifically, quite unknown, I have achieved by endurance and the protection of a higher guiding hand. But I have also worked my material with the same love and conscientiousness as I collected it, and thus, by the aid of my own and that of others, the new map has come into existence. I, an individual man, have not presumed to create an ordnance map ; I only intended to prepare an introductory study for one, which should be sufficiently accurate for the scale chosen, and serve primarily for the illustration of my geological surveys.¹

Every river-course on the map will not show in reality the small curves that are given it, especially in places where I have not been ; but, for this much I can answer that the contours of

¹ The geological map of the Argentine district north of 34° and west of the Parana and Vermejo is likewise just published

the mountains correspond to reality, and that there is no place in the part that I have travelled over and worked that is merely a product of the imagination ; indeed I can assert as my firm conviction that there is no important place, whether mountain-peak, inhabited point, or river, missing in it ; for where it was not personally granted to me to see for myself, my inquiries had to help me out. Even in this respect I think I almost overdid it, as I certainly more than once tried an honest native by hours, and often days, of cross-questioning, and probably even disturbed them at their work ; but, as the innate virtue of the Argentinian, hospitality, never left me in the lurch, neither did his other excellent characteristic of obligingness, but very rarely. Even at the risk that I might be a government agent in disguise, putting my questions for the purpose of the universally unpopular tax assessment (what a cigar or a sip out of one's flask does to ease his mind in this case is incredible), he answered me truthfully ; and I have been a hundred, nay a thousand times convinced of what a sense of locality the New Spaniard has, for if I afterwards came to the place which I had perhaps inquired about years before, I was astonished to find how the reality corresponded to the sketch I had previously made for my own orientation. By the constant repetition of my journeys, which I planned as far as possible in loop manner, places not seen with my own eyes were reduced to narrower and narrower limits, and as these limits were themselves determined by the gradual elucidation of the orographical conditions of the district, the still remaining places that had merely been inquired about also generally received a position approaching the truth. Some few districts which have not yet been touched by me, and of which no surveys exist at all, are constructed merely from inquiries, and are specially noted on the attached sketch-map ; they are the district south-west of Tarija, the district southward from the Cajon to the Campo del Arenal, the Sierra de Ancasti in its central part, and the Rio de Santa

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Cruz or Invernadas de Donoso already mentioned. Numerous guides accompanied me through the mountains, and for this purpose I chose as far as possible only such as had a very accurate local knowledge. As it was my principle from the outset to create no new names of my own, I had to be doubly careful to find people who not only knew the way, but also the names of the parts to be traversed, or the districts to be observed from a distance ; for this purpose I could often only make use of old smugglers and such like, whom fortune to a certain extent paced in my way ; but I also received a whole number of excellent guides through the courtesy of such local inhabitants as could appreciate my task ; indeed not infrequently they conducted me personally. In a larger work which I purpose writing I hope it will be granted to me once more to express my thanks to all who thus assisted me by word and deed.

No. 41.

THE EXPERTS' DECISION AS TO THE STARTING POINTS FOR THE WORK OF DEMARCATION.

[Translated from the Records of the Meetings of the Experts.]

(Quoted on pages 406 and 424 of the Statement.)

Enclosure A.

*Extract from the Record of the Meeting of the Experts held
on April 29th, 1890.*

The discussion being brought to an end, it was agreed that a joint Commission of Assistants should be entrusted next dry season with the demarcation of the boundary, from *the Portezuelo or Pass of San Francisco* which is situated between the 26th and 27th parallels of south latitude, and should proceed *from this point southwards*. With reference to the selection of the starting point for the work, the Experts agreed to declare: That, in fixing on the Pass of *San Francisco* the initial point for the boundary work, they do not mean to imply that this place is the northern extremity of the frontier which separates Chile from the Argentine Republic, but that *it* [the pass] *is a point of the said frontier*; that, if the operations of demarcation are not extended further north for the moment, it is with the object of leaving untouched the territory of Bolivian sovereignty which has been subject to Chilean law by Treaty of Truce, since the 4th of April, 1884, and which in no case could be affected by the boundary Treaty of 1881 or by the

(Quoted
p. 424.)

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Convention of 1888 ; and, that both Experts understand that the northern extremity of the frontier which divides their respective countries can only be fixed definitively by subsequent agreement among the three nations with regard to the said extremity.

Enclosure B.

*Extract from the Record of the Meeting of the Experts held on
May 8th, 1890.*

The divisional line must have, as its northern extremity, Cape Espiritu Santo, and must be prolonged due south as far as the Beagle Channel, and be marked out in all its extent according to the rules established before.

* * * * *

(Both Acts are subscribed to by Señores DIEGO BARROS ARANA and OCTAVIO PICO, as Experts on the part of Chile and the Argentine Republic respectively.)

No. 42.

Chilean Expert's First Proposal as to INSTRUCTIONS TO THE ASSISTANTS.

[Translated from the Spanish text, as printed in Señor Bertrand's "*Estudio Técnico*," etc., pp. 79 and 80.]

(Quoted on page 406 of the Statement.)

The Chilean Expert to the Argentine Expert.

SANTIAGO, June 14th, 1890.

SIR,—

As we are already agreed that, at the beginning of next spring; two joint Commissions of Engineers are to mark out the boundaries between our countries, one in the north and the other in Tierra del Fuego, I believe that it is opportune to agree as to the instructions which, according to Art. IV. of the Convention dated August 20, 1898, we are bound to sign by common accord and deliver to the assistants as a guide for the fulfilment of their mission.

I would have wished to deal verbally with this subject, in Meetings similar to those which we held together in April and May last; but, as you were obliged to return to Buenos Aires before the Passes of the Cordillera became closed for the winter, I had no opportunity to move for an Agreement in this respect.

As I consider that it is absolutely necessary to arrive at such an Agreement, since neither can the assistants begin their

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operations without instructions, nor is it convenient that, when we meet in October, their departure should be postponed, while we are framing them, I consequently take the liberty of inviting you to treat this subject by writing, so as to leave it defined before our first meeting.

To this effect I should be pleased to receive a communication from you with some Draft Instructions for the assistants, or at least containing the basis that, in your judgment, could serve for framing the former.

On my part, and in fulfilment of a duty imposed by my functions, I have drafted a Memorandum which contains the meaning that ought, in my judgment, to be ascribed to the provisions of the Treaty of 1881, and the manner in which our assistants must understand the said provisions when marking out on the ground the boundary line between both Republics.

Quoted
p. 406.

Many of the points which might serve as bases for framing the Instructions being dealt with in this Memorandum, I shall be pleased to send you shortly a copy of it. You might either accept the opinions contained in said Memorandum as a basis for framing the Instructions, or, if you prefer it, follow the first mode of procedure that I have proposed, and present to me yourself bases for the Instructions. In either case, I am confident that we shall arrive at an Agreement easily and without discussion.

I remain, etc.,

DIEGO BARROS ARANA.

Y

No. 43.

The Argentine Expert Señor Pico's Opinion AS TO THE INSTRUCTIONS.

[Translated from the Spanish text, as printed in Señor Bertrand's "*Estudio Técnico*," etc. pp. 79 and 80.]

(Quoted on page 407 of the Statement.)

Extracts from the answer of the Argentine Expert to the preceding communication of the Chilean Expert.

. . . I have no inconvenience, however, in framing a Draft of general Instructions for the joint commissions who have to work on the ground, though, as such Instructions must only refer to the purely technical *modus operandi*, it would be convenient to consult the assistants with respect to them.

What has placed me in a state of true mental perplexity is the news you give me of your having "drafted (in fulfilment of the duty imposed by your functions), a Memorandum which contains the meaning that ought, in your judgment, to be ascribed to the provisions of the Treaty of 1881 and the way in which our assistants must understand the said provisions when marking out on the ground the boundary line between both Republics," and your announcing the sending of a copy of it *which might serve me as the basis for framing the aforesaid Instructions*.

It is with reference to this notice and this announcement that I deem written communications to be of the greatest gravity and inconvenience.

The old Boundary question between Chile and the Argentine Republic occasioned long and vexatious discussions: and it was with written paper that the fire of discord was fed for a quarter of a century.

The diplomatic notes were drawn up and dispatched as Army corps and, with the *interpretation of the titles* as weapons that each nation found in the Arsenal of its Archives, they fought one another without becoming convinced. A few words (as you yourself informed me), a few words exchanged by wire blew on this conflagration and put it out.

The period of the discussion was thus closed. At present there is no longer a Boundary question. The Treaty of 1881 was generously and nobly agreed to, as was fitting, by two brothers who divided between them the paternal inheritance.

The Treaty entrusts to two Experts, one appointed by either country, the carrying out on the ground of the operations necessary for the realization of its provisions.

The same Treaty, with true foreknowledge, has anticipated the difficulties which the Experts might find in the fulfilment of their duty, as it says in Art. I. that " they must solve *amicably* the difficulties that might arise on account of the existence of certain valleys, formed by the bifurcation of the Cordillera and where the water-parting line might not be clear " ; and adds, " In case they (the Experts) do not arrive at an Agreement, a third Expert, appointed by both Governments shall be called to decide the difficulty."

Thus the Experts are judges of the facts, and it is as to facts and with a perfect knowledge of them that they must arrive at their decisions. The mission entrusted to these functionaries determines clearly their character and from their character their duties are derived.

To study the facts, to undertake a survey including those facts in all their details, carefully and especially indicating the features laid down by the Treaty, as characterizing the

Quoted
p. 407.

boundary, and to mark it out without hesitation ; that, in my opinion, is the duty of the Experts—to act, not to discuss.

Should a divergence of opinions, as how to appreciate the facts, arise between us, such that our good will be powerless to set aside, we should resort to the means prescribed by the Treaty : to submit the question to a third party.

But meanwhile the case does not occur, and while the fact which is to cause the difference of opinions, does not present itself (if such an event is ever going to happen), it seems to me at least premature, to re-open the discussion on the Treaty, expounding the interpretation of the text, the meaning of which has not occasioned the least contradiction. This could even be considered as a disavowal of the efficacy of the Treaty.

* * * * *

To fix in a Memorandum the meaning that one of the Experts gives to the Treaty, would perhaps provoke the contradiction of the other, and anticipate far graver difficulties than those whose remote possibility is foreseen in the Treaty, and anticipate them on a ground that was not foreseen, that could not be foreseen, on a theoretical ground. And then I do not know to whom we could legally appeal to settle our divergency in the interpretation of the Treaty. What I know is, that, besides duty as I understand it, every impulse moves me to evade the decision, to avoid the contradiction, and to remove for ever, if it is possible, the conflict.

The conciliatory and amicable spirit, which guides my conduct and suggests to me this prevision is also the same spirit of fraternity which moves my Government.

In the written instructions which I have received from them, and which, as a pledge of loyalty, I made known to you without any reserve at our first Meeting, I am reminded that my chief instruction is to adjust my behaviour to the eminently conciliatory and amicable spirit which pervades the Treaty.

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I am happy to acknowledge that you fully share the same ideas, and to repeat that, thanks to this community of high purposes, my labour with you has been easy and pleasant ; it gives me pleasure and satisfaction to acknowledge your singular intellectual gifts and moral endowments ; and my confidence in these leads me to hope that the preceding remarks and previsions will find an easy acceptance in your open and benevolent mind.

OCTAVIO PICO.

No. 44.

The Argentine Expert's Request to delay THE BEGINNING OF THE DEMARCATION in 1890.

[Translated from Bertrand's "*Estudio Técnico*," Docs. p. 70.]

(Quoted on page 462 of the Statement.)

TELEGRAM.

BUENOS AIRES,

August 29th, 1890.

SEÑOR DIEGO BARROS ARANA, SANTIAGO, CHILE.

IN view of recent events, change of Government, and Commission under my orders being incomplete, thus preventing me from completing indispensable preliminary preparations for my departure, I would request that you postpone our meeting in Santiago over November, for the purpose aforesaid.

Awaiting a favourable reply,

I am yours,

OCTAVIO PICO.

No. 45.

BASES FOR THE INSTRUCTIONS

To the Assistants presented by the Argentine Expert,
Señor Don Octavio Pico, to the Chilean Expert,
Don Diego Barros Arana.

[Translated from Bertrand's "*Estudio Técnico*," etc., Docs. p. 101.]

(Quoted on page 412 of the Statement.)

SANTIAGO, January 13th, 1892.

MR. EXPERT,—

In view of the Instructions to be given to the joint Argentine-Chilean Commission entrusted with the demarcation of boundaries on the north, we agreed as to the general bases of those Instructions, and when presenting to you, as a draft, the Record of that Agreement, as is customary, they were stated as follows :—

First.—The strict application of Article I. of the Boundary Treaty of 1881, which reads: "The boundary between the Argentine Republic and Chile from north to south as far as the parallel 52° S. is the Cordillera de los Andes. The boundary-line shall run in that extent over the highest summits of the said Cordilleras which divide the waters, and shall pass between the sources [*vertientes*] flowing down to either side."

Second.—When the highest summits of the Cordillera present themselves in the shape of plateaus or tablelands, the

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highest point of those plateaus shall be ascertained by means of levelling and the dividing-line shall run over them.

To these bases I took the liberty of adding in the Record the following :—

Third.—Even when these or any other of the most elevated crests of the said Cordillera are inaccessible, they shall always be the true boundary of the two nations.

Fourth.—Should the case occur, which is provided for by the Treaty, of valleys formed by the bifurcation of the Cordillera, where the water-parting line is not clear, the joint Commission shall make an exact map of the facts and shall submit it to the consideration and decision of the Experts, without leaving any definitive signs of boundary whatsoever on the ground studied.

The Record, which I had the pleasure of presenting to you, having been worded thus, and having been read by you without any observations being made, you pointed out to me, however, that, in order to avoid every doubt or difficulty that might occur, it would be advisable to establish clearly that the boundary line must follow the water-parting, even if it should be necessary, to do so, to deviate from the highest summits.

Quoted
p. 414.

I then deemed it my duty to observe that, in my opinion, this criterion could not be applied to the text of the Treaty of 1881 and that, on the contrary, we ought chiefly to carry out the stipulation of the said Article I. where the general rule is that the highest summits of the Cordillera de los Andes are those which determine the boundary line between both countries.

I likewise stated to you that this opinion of mine was also the official criterion of my Government and of distinguished statesmen of my country, and the same as was accepted by one of the authors of the Treaty, Dr. Bernardo de Irigoyen, Minister for Foreign Affairs at the time; and that Chilean authorities were not lacking, either, in its support.

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You thought yourself bound to insist in your arguments to show that the interpretation to be given to the Treaty of 1881 is the one which you attribute to it, that, above all, the water-divide must be accepted even though, in some cases, it should be necessary to abandon the highest summits, as would happen in leaving the great mountain of Aconcagua within the Argentine territory, in which it was situated.

Among the opinions which favoured my own in the *interpretation of the Treaty*, I quoted a Chilean opinion to you. I feel sure that it will merit great consideration on your part. It is this: In a note from the Chilean Plenipotentiary, dated November 10, 1874, replying to the Note of the Bolivian Minister of the same date communicating the Law of the Bolivian Assembly, approving with some explanations the Treaty of August of the same year, the following was said: "To the scrupulous and suspicious persons who have charged Your Excellency with having ceded numerous territories of Bolivia by accepting the wording of Art. I., it would be right to remark that the Republic of Chile does not claim to enclose herself between her sea and her Cordillera in order to obtain all that she aspires to: her peace, her welfare and her progress. A special Protocol to explain what I have explained in the words just given in this note, seems to me needless. In my opinion it is sufficient that I should declare, as I do, that my Government understands its eastern boundary, in the region of the desert of Atacama, to be only the highest summits of the Cordillera and nothing else. I believe that this declaration is sufficiently clear and will leave no room for doubt," etc.

This important document bears the signature of the Chilean Plenipotentiary at the time mentioned, Señor Don Carlos Walker Martinez.

Consequently, as the standards with which we respectively believe that the Treaty of 1881 must be applied, are so different, and as both of us consider all discussion thereon to be useless,

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I think it my duty to confine myself to stating these facts in the present Note addressed to you ; and to place them before the Argentine Government as has been agreed, in order that they, studying the point in the manner that they deem most fit, may decide on the matter.

I renew to you the assurances of my highest consideration and esteem.

OCTAVIO PICO.

Juan I. Ochagavia, Secretary.

No. 46.

The Chilean Expert on THE GEOGRAPHICAL INTERPRETATION OF THE TREATY.

[Translated from Bertrand's "*Estudio Técnico*," etc., Docs. p. 103 et seq.]

(Quoted on pages 416 and 417 of the Statement.)

Enclosure A.

The Chilean Expert to the Argentine Expert.

SANTIAGO, January 18, 1892.

MR. EXPERT,—

I have the honour to receive your Note dated the 13th inst., wherein, reviewing the discussion held on that day, you remind me of the difficulty which has arisen respecting the meaning of Art. I. of the Boundary Treaties, and express to me the basis of your opinion regarding the matter.

I must begin my reply by establishing the preliminary facts of this discussion.

In conformity with what we had said on the previous day, on the 13th of January, you presented me with a draft of instructions which were to be given to the Engineers entrusted with the demarcation of the northern part of the boundary line. After a very hasty perusal of it, and reserving to myself the right to communicate such draft to the engineers of that Commission, who will take part in that work, in order to introduce into it the modifications of detail which might be

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deemed necessary, I stated to you that I considered it indispensable to insert another article designed to obviate interruptions and difficulties in the work, and to confirm the general rules to be followed in the complete fulfilment of our mission. Quoted
p. 416.

I then stated to you that, as the line of demarcation must be drawn along the highest summits of the Cordillera which divide the waters and between the streams which flow down to either side, it was advisable to state that the demarcating engineers should not take into account the peaks, heights and chains which are situated outside of the water-parting line. Quoted
p. 416.

I believe, Mr. Expert, that this proposition, based on the letter and on the spirit of the Treaty of the year 1881, would not give rise to the smallest objection or to the remotest difficulty. Your negative reply, based on the expressions "highest summits of the said Cordilleras," suppressing the qualifying and explanatory phrase, "which divide the waters," was to me, I must frankly acknowledge, a genuine surprise. As you, at that Conference, and later in your esteemed Note to which I reply, have insisted on this opinion, I must here state the reasons which I had yesterday, and which I have to-day, for differing from your opinion. Quoted
p. 416.

You will permit me to go into certain general considerations which may perhaps seem useless and out of place, but which, in my opinion, help to strengthen the view maintained by me.

The ideal form of a chain of mountains, or if you prefer it, the elementary construction of it, is that of a two-sided roof, of a dihedral angle, whose edge or line of intersection of the two lateral planes forms the culminating crest, from which their flanks or sides gradually slope till they join the lowlands. But this is only the ideal form. The most superficial exploration of the ground suffices to demonstrate that there do not exist any chains in which this normal alignment of summits is found anywhere with geometrical regularity.

They offer, on the contrary, a group of masses, of chains and of spurs, extending in different fashions, in which it is impossible to recognize the direction of the crests except after prolonged and careful studies. It is frequently found that the highest summits are not situated on the crest itself. Science, however, has sought and found a fairly easy method of determining the dividing line in that labyrinth of mountains, which cross each other, or run almost parallel, without any order or regularity. "The edge of a chain of mountains," says Arago, "is naturally the line of the division of its waters which flow down their sides and run towards two different valleys."

One of the most distinguished geographers of our century, Adriano Balbi, in Chapter ii. of his "*Treatise of Geography*," says as follows respecting this: "Those whose sides or culminating points give rise to large watercourses are considered as the main chain of a group or system of mountains." And further on he adds: "The name of edge (in mountains) is applied to the obtuse or sharp intersection of the planes forming the two sides of a chain, a line which determines the division of the waters of the two opposite sides and which is the summit of a mountain." This line, naturally curved or broken, easy to discover and to designate, will frequently change in altitude and azimuth. It may possibly pass over a swamp or over a lake shedding its waters to its two opposite sides, but *in no case will it cut a brook or a river.*

International law has adopted this principle for the determination of boundaries between countries. "If the boundary of a State is a Cordillera," says Don Andres Bello in his "*Principos de Derecho Internacional*," part I, chapter iii. paragraph 2, "the dividing line runs over the highest points of it, passing between the springs of the sources that flow down to either side." So as to avoid amassing a great number of quotations on this point, I shall confine myself to copying here Article 297 of Bluntschli's text on codified International Law which

reads as follows: "When two countries are separated by a chain of mountains, it is admitted, where doubt exists, that the upper crest and the water-parting line form the boundary."

I do not think it necessary to recall here to you the Boundary Treaties, signed of latter years between some of the most cultivated and civilized nations of the world, in which the water-parting line has been accepted as the line of demarcation in chains of mountains. It is true that in some countries, owing to special considerations, based on remote tradition or on ethnological conditions this rule has not been observed in all its force. In a detailed and scientific description of the Pyrenees written by M. Elisée Reclus, that distinguished geographer laments that, for reasons of this kind, the natural line of the water-divide has not been strictly followed in the demarcation of boundaries between Spain and France.

In the special case of the boundaries between Chile and the Argentine Republic, this system of demarcation has been unreservedly acknowledged and sanctioned from the Colonial epoch.

The most reliable and most fundamental work known on the geography of the latter of these countries, is beyond dispute the "*Description Physique de la République Argentine*" by Dr. Don Jerman Burmeister, Director of the Museum of Buenos Aires. There in Chapter i. of the second volume he textually says the following respecting this: "The western boundary (of the Argentine Republic) is better defined than the northern one. It is the same that existed from the time of the Spanish domination, between the Vice-royalty of La Plata and the Government of Chile. When the new Vice-royalty was founded, the separation of the hydrographical basins was intelligently chosen as the political boundary, and all the country and all the mountains from which the waters flow to the east were adjudicated to the State of La Plata. Chile, on the other hand,

Quoted
p. 280.

was given the whole of the hydrographical system drained to the west."

This natural and traditional demarcation has been accepted without discussion by the two countries ; and whenever doubts have arisen with regard to any point, it has merely been due to the fact that the water-parting line was not exactly known. In the long boundary dispute maintained between both countries for over thirty years, in the course of which hundreds of communications have been exchanged, it has been acknowledged on both sides in the most clear and definite manner, and as an unquestionable fact, that all along the territorial extent in which the Cordillera de los Andes serves as a frontier between both countries, the dividing line passes along the highest summits which divide the waters, running between the streams which flow to one side and the other. With the object of curtailing this Note and of not wearying your attention with a superabundance of quotations, I shall confine myself to saying that Señor Don Felix Frias, Envoy Extraordinary and Minister Plenipotentiary of the Argentine Republic at Santiago, in a communication of the 20th September, 1873, after quoting several documents in his support, pronounced this declaration : " The Government of Chile has understood, like the rest of the world, in conformity with an international rule universally adopted, that, whenever mountains or a Cordillera separate two countries, the boundary between them is marked on its summits by the flow [*caida*] of the waters."

Opinions similar to this are frequently found in documents emanating from the Argentine Government which have been published, and in many others which are unpublished and which I could quote in my support, if, as I have said above, I were not afraid of fatiguing your attention.

But even if these geographical, legal and historical antecedents did not exist, it suffices to quote verbatim Article I. of the Treaty of 23rd July, 1881, in order to show that the

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question is clearly and definitely decided. It reads thus :
“ The boundary between Chile and the Argentine Republic is from north to south, up to parallel 52 of latitude, the Cordillera de los Andes. *The boundary line shall run in that extent over the highest summits of the said Cordillera which divide the waters and shall pass between the streams flowing down to either side.* The difficulties that might arise owing to the existence of certain valleys formed by the bifurcation of the Cordillera, and where the *water-divide* may not be clear, shall be amicably solved by two Experts, one appointed by each party.”

From the clear and indisputable meaning of this Article, in which care has been taken to repeat three times, in the clauses which I have underlined, the rule of the demarcation by the water-parting line, the following consequences are naturally and forcibly drawn :—

1.—As the line of demarcation must pass over the highest summits *which divide the waters*, it is clear and beyond all doubt that it ought not and could not pass over the summits of the Cordilleras, however high they may be, *which do not divide the waters*. This, it is, Mr. Expert, which I request should be stated in the instructions to be given to the Engineers in order to avoid delay and difficulties. Quoted
p. 416.

2.—As the line of demarcation must pass between the streams which flow to either side, it is clear, and beyond all doubt, that *such line should not, and cannot, cut any stream, whether a river or a mere brook ; which could not be accomplished if any other system of demarcation was employed*, and especially that of seeking for the absolute highest summits, which are frequently found in the eastern or western sides or flanks of the mountain, and separated one from the other by considerable distances traversed by rivers and brooks.

3.—The only difficulty foreseen in the Treaty in the demarcation of the boundary is that which might arise owing to the

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existence of inland valleys of the Cordillera where the *water-parting line* should not be clear, and in this case the Treaty itself stipulates that the difficulty must be solved by the Experts whose duty is, and can be no other, than to seek for the *water-parting line*.

You say, in the Note to which I have the honour to reply, that this is not the meaning given to the Treaty by Dr. Don Bernardo de Irigoyen, Minister for Foreign Affairs of the Argentine Republic at the time when the Treaty was signed. It is extremely painful to have to deal with this argument, but I consider myself obliged to do so. You know that when I held the post of Minister Plenipotentiary of Chile in the Argentine Republic in 1876, I had the honour to take a direct part in the drafting of the boundary treaty ; and that in 1881, as the confidential agent of the Government of Chile, I had the satisfaction of seeing it concluded and sanctioned.

In this double capacity I can declare that the clear and explicit intention of the Government of Chile when signing this Treaty, was, on this point, the establishment of the water-parting line as the only reasonable and practical manner of dividing the Cordilleras.

You know that the relations I then had with Señor Irigoyen were both cordial and friendly, and that I still entertain the highest opinion of the loyalty, wisdom and intelligence of this distinguished statesman.

When I heard you quote the testimony of Señor Irigoyen with a view to giving a different meaning to the boundary treaty, I was painfully surprised, because I could not imagine that so intelligent and experienced a negotiator as Señor Irigoyen could have proposed, agreed to, and sanctioned the form given to the Article referred to, which expresses a diametrically opposite idea to that which is now attributed to it ; that is to say, that Señor Irigoyen, wishing that the demarcation should be made by the highest summits of the Andes, should have

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selected or accepted a wording according to which such line must be traced along the water-divide.

On the other hand, although I was deeply convinced that Señor Irigoyen then favoured and supported the idea which was stipulated in the Treaty, as well as the same wording with which it is embodied in Article I., and although, in spite of my advanced age, I have not noticed that my memory is growing much weaker, I believed that I had not sufficiently sure foundation to prove the fact. I must now assure you that such assertion depends solely on a mistaken recollection.

I have consulted my private correspondence of that period and the private notes which I took after each incident of that laborious negotiation, and these documents have once more shown me the unquestionable fact that in 1876–1877, the President of the Argentine Republic, Don Nicolás Avellaneda, and Señor Don Bernardo de Irigoyen, Minister for Foreign Affairs, held upon this point the fixed opinion that the demarcation should be made along the water-parting line.

In one of my conferences with Señor Irigoyen, while seeking a better way of expressing this idea, we opened the work of Señor Don Andres Bello and extracted from it a passage which we inserted almost textually in the draft treaty. I must add to you that two other Ministers for Foreign Affairs of the Argentine Republic with whom I had to deal concerning these matters, Drs. Elizalde and Montes de Oca, expressed to me exactly the same opinion,—which must not surprise you, for such was the opinion of the most distinguished public men of that country, as you must have seen from the quotation which I have given from Don Félix Frias, and which you will be able to confirm by the references which I shall have to make in the course of this note.

You believe to have found an opinion which favours the meaning that you give to this article of the Treaty, in certain words copied from a note which, under date of 10th of

November, 1874, the Minister Plenipotentiary of Chile, Don Carlos Walker Martinez, sent to the Government of Bolivia. As regards this, I may simply observe to you that the document quoted refers merely and exclusively to that part of *the desert of Atacama* where there exists, really and effectively, a line of high summits which separate Chile from the plateau of the Bolivian Puna of Atacama, a region in which there is so complicated a ramification of the *divortium aquarum*, that, by exception, at the point where the waters of the plateaus do not empty into the ocean, it was thought safer to designate the high summits which did not offer ambiguities and embodied the traditional boundary.

But I am about to present to you more clear, precise and decisive opinions, not only from one, but from various Argentine statesmen, respecting the traditional and legal value of the water-parting in the demarcation of boundaries with Chile.

In September 1871, Señores Don Bartolomé Mitre, Don B. Vallejos, Don Juan Herrera, Don José Arias and Don J. E. Torrent, who formed the boundary commission of the Senate of the Argentine Republic, after numerous conferences in which the several questions submitted to them were ventilated, proposed a project of law which divided and delimited amongst themselves the national territories which did not form part of the provinces of the Confederation, and which should be subject to the exclusive jurisdiction of national authority. The creation of four territories, or Gobernaciones, to the south of the River Negro was therein proposed, and the boundaries of each of them were given. To all four of them, Mr. Expert, the water-parting line of the Cordillera de los Andes is there assigned as western boundary. This reference, which amply proves what I have said above, needs no comment.

In 1898, that is to say, 7 years after the Boundary Treaty was sanctioned, a volume of 750 pages was published in Buenos Aires, entitled "*Jeografia de la República Arjentina*," by

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F. Latzina, which I have seen highly recommended by the press of Buenos Aires and of several provinces of that Republic, and which as I think, I remember obtained a prize of honour. On glancing through this book I have noted, on pages 384, 396, 409, 490, 494, 497 and 499, that it is expressly said that the provinces of Mendoza, San Juan and Rioja, like the Gobernaciones de Neuquen, Rio Negro, Chubut and Santa Cruz, are separated from Chile, on the western side, by the *divortium aquarum* of the Cordilleras : that is to say, by the water-parting line established clearly and definitely by the Treaty of 1881.

Moreover, on this point, Señor Latzina simply repeated in other words, what the illustrious writer, Don Jerman Burmeister, had written before him.

I shall also add that the advantages of the water-parting line for the demarcation of boundaries of territories has been acknowledged by another renowned Argentine statesman, when dealing with a very different question. From some time back the Provinces of Córdoba and San Luis had had a provincial boundary question and, wishing to decide it, appointed the President of the Republic as arbitrator in the matter. General Don Julio A. Roca, who filled this high office, gave his arbitral decision on the 26th of November, 1883, and in this document we find the following words : " On the east, the Sierra Grande de Córdoba, along the line dividing its waters, from the source of the Arroyo Piedra Blanca up to where the Arroyo Palmilla rises."

The distinguished General Roca, when inserting this resolution in his decision, only acknowledged the sound and established principle of geography which I maintain when requesting the faithful fulfilment of Article I. of the Boundary Treaty.

Pray believe, Mr. Expert, that in upholding with so much persistence, the demarcation of the boundaries in the Cordillera according to the Treaty of 1881, over the water-parting line, I am not guided by the idea or the illusion of increasing by this

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means the territorial dominion of Chile. Although the eastern slopes of the Chilean-Argentine Andes and of the spurs which detach from them are, up to the present time, less known than the slopes and spurs of the western side, we know that in the former, as happens frequently in all the chains of very considerable heights, mountains rise at some distance from the central range, which necessarily would have to be taken into account, if the highest summits were to be sought for the demarcation. Following this rule of demarcation, the boundary line, far from running to the west of the Andes, depriving Chile for instance of a large portion of the territory of the Province of Llanquihue, and even part of the Gulf of Reloncaví, as I have seen it drawn in some Argentine maps of recent date, would certainly pass a good many kilometres to the east of the central range of this Cordillera. I deem it useless to designate now the points where this would happen.

My aim in maintaining the demarcation along the water-parting line is a strict and loyal compliance with the Treaty of 1881. The object of that Treaty, in the negotiation of which I took part, was to put a reasonable and pacific end to a long and vexatious boundary question, to re-establish the most perfect harmony between the two countries, and to fix clear and practical rules for the demarcation of the frontier line, giving to each party what corresponded to it. The reason that the negotiators of 1881 had for accepting the water-parting line as the boundary in the Cordilleras, is the same recommended by the sound principles of geography and International Law. Such a line is, in fact, unique, easy to define, to identify on the ground and to demarcate, being designated by nature itself, and not subject to ambiguities or errors.

The course of the waters is a continuous, essential, immutable characteristic and inherent circumstance of a region ; while the greater or less elevation of a peak is something accidental, which does not affect in the least the configuration of the

neighbouring region, and which is subject to errors in the determination of its height. It may be said that, when an attempt has been made to measure the height of each one of the lofty peaks of the globe, the summit of which man has been unable to reach, or has reached with great difficulty, as many measurements have been assigned as there have been observers who undertook the task; and although those differences are not in many cases of great importance, they would have to be taken into account when fixing the delimitation of two countries on the basis of the absolute height of the mountain range, or of its spurs, separating one country from the other.

In our case, and dealing with a chain of mountains, the unknown, or hitherto imperfectly explored part of which, with its spurs, measures in many points some hundreds of kilometres in breadth, the demarcation by the greatest absolute heights would represent the work of centuries, would be liable to the gravest errors, and would finally lead to untenable absurdities. Would it be possible, Mr. Expert, that in the actual and not hypothetical case of there being two summits of more or less the same height, situated at a great distance from one another and on the opposite slopes of the mountain, the line should be made to pass from east to west or from west to east, and that the dominion of an extensive territorial zone should depend on the difference of a few metres in their height or on an error of observation?

The truth is, Mr. Expert, that the expressions "summits of the Cordillera," "culminating point," "highest summits," etc., answer to the general idea that there exists a "line of heights" coinciding with the division of the waters, because it so appears in the maps and plans of every day use; but the detailed study of mountains, and especially of the Andes, shows that such "line of high summits" does not exist, nor are they all, or even the greater part, in the water-dividing range.

The tracing of a line over the highest summits of the Cor-

dillera would yield, were it possible to accomplish it, the most unforeseen and extraordinary geographical results. How would it be possible to connect those summits, which are so capriciously and unevenly distributed in the central range and on both sides of the chain? Each time that I have asked myself this question after hearing your opinion, I have found no other answer than that the geographical lines would be sought which would unite those points, cutting at every step the central range and the springs which flow therefrom, the valleys, rivers, and sea channels, possibly towns or cities, and violating in one word, at every moment, the spirit and letter of the Boundary Treaty with which we should comply.

Besides, which are the high summits which it would be attempted to connect? Would they be all those of the Cordillera, no matter what their distance from the water-parting line? In such a case, the line of greatest altitude would, as probably, take us from the Nevados of San Francisco in parallel 27°, to the summit of the Famatina, in the thoroughly Argentine province of Rioja, as it would perhaps compel us to divide the Chonos Archipelago in lat. 45.

To avoid such absurd results would it be possible to fix a maximum of distance from the water-parting line? But what natural circumstance, what logical reason, what provision of the Treaty, would guide us in fixing such a boundary?

From the highest summit of the Andes, Mount Aconcagua, which rises at 10 kilometres from the *divortium aquarum*, on Argentine territory, to the Calbuco volcano which lies 60 kilometres into Chilean territory, and to Mount Payen which is situated 130 kilometres east of the water-divide in the Province of Mendoza, we could form an uninterrupted list of summits which, kilometre by kilometre, gradually diverge from the said divide on both sides. And we cannot disguise the fact that the exploration of the ground would acquaint us with other summits which would certainly increase our perplexity.

In fact, Mr. Expert, it is sufficient to point out the difficulties to understand that they could not have escaped the attention of that one of the authors of the Treaty mentioned by you, had he entertained the idea which you now attribute to him ; and it is all the more impossible to explain why he should have admitted, as the only difficulty worthy of being foreseen in the Treaty, the case in which, owing to the bifurcation of the Cordillera, " the water-parting line should not be clear,"—a case inconsistent with the tracing of the frontier over the highest summits, whether they do or do not form a part of the *divortium aquarum*.

To sum up, Mr. Expert, the boundary treaty of 1881, which we are commissioned to fulfil, indicates to us, as the only frontier line down to parallel 52°, " the line running along the summits of the Cordillera which divide the waters " ; it avoids all ambiguity by stipulating that such line has to pass between " the streams which flow to one side and the other " ; and directs us to solve amicably the only difficulty which might present itself when the " water-parting line " should not be clear.

In the presence of the categorical sense of these clauses I cannot but ask myself, what interest, what object, what benefit for either of our two nations can there be in seeking a forced interpretation which cannot be maintained without rejecting the meaning of the words and the connection of ideas,—an interpretation contrary to that which all geographers and statesmen have given to this and to other similar covenants.

If the Treaty has opened to us such an easy and simple road offering only one difficulty of slight importance, which it foresees and the solution of which it indicates, why should we trouble ourselves to go beyond the route traced by general consent, and where we should require to be enlightened by geographical science, in order to encounter difficulties and drawbacks of every kind ? With what object, if the Treaty indicates

to us a line which may be determined by a mere inspection of the ground, and, in the most complicated case, by levelling between accessible points,—with what object, I repeat, should we substitute for it a line subject to the most complicated operation of the geodetical levelling of innumerable snow-capped peaks?

I believe I have demonstrated in the preceding pages that the demarcation of the boundaries by the water-parting line, besides being the one clearly and definitely established by the Treaty of 1881, is the only practical one, and the only one possible when carrying out the operation on the ground. The idea of carrying out such demarcation over the highest absolute heights, is not only contrary to the spirit and to the letter of the Treaty, but it is geographically impracticable.

I do not hesitate to declare that such alleged demarcation is a geographical chimera, maintained it is true, in writings and maps of recent date, to which I can concede neither the least authority nor any serious object, just as I cannot admit either in the case of another chimera which I see maintained in the same writings and in the same maps.

I refer to the alleged Argentine ports on the Pacific, which, against the spirit and letter of the Treaty, would interrupt and break the continuity of Chilean territory. Upon this point maps have been made and re-made, their authors imposing upon themselves a task as laborious as it is useless, for, the geographical question which it is attempted to raise by their means will, neither to-day, nor to-morrow, nor in the future, yield any practical result.

On this account I am of opinion, Mr. Expert, that we must set aside these questions, which have been clearly and definitively settled in the Treaty of 1881, and that, cultivating the sentiments of cordiality, of harmony and of respect for that covenant which you have expressed on many occasions, and of which I have given proofs by obvious acts in previous agree-

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ments, we should peacefully continue our work, the completion of which is destined to maintain and to consolidate the good relations between Chileans and Argentines.

I have the honour to subscribe myself with all respect,

DIEGO BARROS ARANA.

Enclosure B.

Reply of the Argentine Expert to the preceding Note.

SANTIAGO, January 19, 1892.

I have the honour to inform you that I have received the comprehensive note which, under yesterday's date, you have deemed it advisable to forward, explaining your manner of understanding the Boundary Treaties, and to which I shall be pleased to answer, if my Government, to whom I send a copy thereof, considers that I should re-open the discussion in this form, after the very firm and diametrically opposed declarations exchanged on the 13th inst.

With this motive I have the honour to subscribe myself, with all consideration,

Your obedient servant,

OCTAVIO PICO.

Juan I. Ochagavia,

Secretary.

No. 47.

MINISTER ZEBALLOS' INSTRUCTIONS TO THE EXPERT, SEÑOR PICO, IN 1890.

[Extract translated from the "*Memoria de Relaciones Exteriores de la República Argentina*," 1892, pp. 305 to 307.]

(Mentioned on page 419 of the Statement.)

V.

"SHOULD the difficulties mentioned in Art. I. of the Treaty of 1881 arise, the Expert, Señor Pico, shall try to solve them in the spirit of friendship and concord which that Treaty effected the security of for the future. In no case shall they disturb the cordiality of intercourse between both countries, or between the Experts, since the proceedings for solving said difficulties have been foreseen in the very Agreement which is about to be carried out on the ground.

"In such cases and in order to prepare the way for the action of the Experts, if they are able to solve them, or in order to facilitate the proceedings established by the Treaty, a general survey must be undertaken of the region which includes the place or places under discussion, with a special study of the same, and the map must be sent in duplicate and signed by both Experts and must be annexed to the Act referred to in Art. I. of the Treaty of 1881.

VIII.

"If in some places the orographic or hydrographic features foreseen in the Treaty do not exist, or if their characteristics are not in accordance with the text of said document, the circumstance must be recorded in the Acts alluded to in Art. I.,

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which may be a matter for subsequent proceedings, if both Experts, inspired by a reciprocal spirit of international friendship, should be unable to find on the ground a solution satisfactory as well to the rights as to the dignity of their respective countries."

In these instructions, which I [Dr. Zeballos] had the honour to sign in 1890, the theoretical difficulties that arose in 1892 between the Experts were foreseen and obviated; and the Argentine Government, being confident of the high motives of the Chilean Government, hoped that the Instructions being communicated to them by the Argentine Legation, would be accepted as a pledge of reciprocal good-will in order to fix amicably the boundary agreed to.

Señor Pico acknowledged the receipt of the communications by which he was made aware of the Argentine Government's attitude, which was merely to insist on their original standpoint. He agreed with this and decided to resume the Meetings with his colleague.

On the 9th of February a meeting was held. Señor Pico came alone. Señor Barros Arana brought to the meeting his assistants, Engineer Señor Alejandro Bertrand and Señor Merino Jarpa.

Señor Pico began by proposing to his colleague the rules of proceedings which have been reproduced. In his note to the Ministry dated February 10th, relating the circumstances of the case he said :—

"The Chilean Expert and his assistant, Señor Bertrand, decidedly opposed this proceeding, objecting that the work would be extremely long and that, besides, it was not included in the faculties of the Expert which consisted only in clearing up and solving the difficulties presented by certain valleys formed by the bifurcation of the Cordilleras.¹

¹ The objections of Señor Bertrand were formulated as follows : (as published

" I replied that my proposition was within the legal attributions of the Expert, and that the work demanded for the realization of the proceedings proposed was no more nor less than that which would have to be done by the Argentine-Chilean Commission, if they take their departure from here with preconceived ideas as to how the boundary ought to be definitively fixed.

"That the Map would in any case be necessary for giving an account of our Mission, and ought to be kept in the Government Offices of either nation as an indispensable document of their delimitation."

in 1895 in his *Estudio Técnico*, Docs. p. 89). That, according to the Convention of 1888, Art. 3, the Experts must carry out on the ground the demarcation of the lines indicated in the Boundary Treaty, and that for this operation he, as a surveyor, could affirm that no maps were required. That, in order to solve the difficulties foreseen in the Treaty, when bifurcations of the water-parting Cordilleras occurred, it might be necessary to make partial surveys of these regions, and that this was, in his understanding, the only case in which the Treaty made obligatory to undertake technical operations.

He added that, in his judgment, this was no impediment to deciding that the instructions should contain a recommendation to collect all geographical data, so long as this should not entail a disturbance in the execution of the operations of delimitation; and that the Assistants on their part should devote their best ability to this purpose.

No. 48.

INSTRUCTIONS TO THE ASSISTANTS (1892).

[Translated from "*Memoria de Relaciones Exteriores de la República Argentina*," 1892, pp. 314 to 316.]

(Quoted on page 420 of the Statement.)

GENERAL FORMULA.

"IN order to give effect to Articles I., II., III., and IV. of the Boundary Treaty of July 23, 1881, the Experts appointed by the Argentine Republic and the Republic of Chile, have agreed to commission the Assistant Engineers . . . in order that they may proceed to the Cordillera de los Andes and to Tierra del Fuego and carry on the demarcation of the frontier line with the starting point, extent and conditions agreed to by the Experts on the 24th and 29th of April and 8th of May, 1890, and draw up, at the points at which they may be in accord, the Record which the Experts must sign in conformity with Article I. of the Treaty.

This delegation is made for the object expressed in Article III., and by virtue of the power which Article IV. of the Convention of the 20th of August, 1888, confers on the Experts."

INSTRUCTIONS FOR THE SOUTHERN REGION.

"In order to give effect to the stipulations of Articles III. and IV. of the Boundary Treaty of July 23, 1881, the Experts appointed by the Argentine Republic and the Republic of Chile, have agreed to commission the Assistant Engineers, Don

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Valentin Vidasoro, Don Juan A. Martin and Don Federico Erdman, on the part of the Argentine Republic, and Don Vicente Merino Jarpa, Don Alberto Larenas and Don Carlos Soza Bruno on the part of the Republic of Chile, in order that they may proceed to Tierra del Fuego and carry on the demarcation of the frontier line, with the starting point, extent, and conditions agreed to by the Experts on the 24th and 29th of April and 8th of May, 1890, and draw up, at the points at which they may be in accord, the Record which the Experts must sign in conformity with Article I. of the Treaty.

This delegation is made for the object expressed by Article III: and by virtue of the power which Article IV. of the Convention of the 20th of August, 1888, gives to the Experts.”

Quoted
p. 420.

SANTIAGO DE CHILE, February 24, 1892.

INSTRUCTIONS FOR THE NORTHERN REGION.

“ In order to give effect to the stipulations of Articles I. and IV. of the Boundary Treaty of July 23, 1881, the Experts appointed by the Argentine Republic and the Republic of Chile have agreed to commission the Assistant Engineers, Don Julio V. Diaz, Don Luis J. de Llepiane, and Don Fernando L. Dousset on the part of the Argentine Republic, and Don Alejandro Bertrand, Don Aníbal Contreras and Don Alvaro Donoso, on the part of the Republic of Chile, in order that they may proceed to the Cordillera de los Andes and carry on the demarcation of the frontier line, with the starting point, extent and conditions agreed to between the Experts on the 24th and 29th of April and 8th of May, 1890, and to draw up, at the points at which they might be in accord, the Record which the Experts must sign in conformity with Article I. of the Treaty.

Quoted
p. 420.

This delegation is made for the object expressed by Article III. and by virtue of the power which Article IV. of the Convention of the 20th of August, 1888, gives to the Experts.”

SANTIAGO DE CHILE, February 24, 1892.

No. 49.

ACT OF DEMARCATION AT THE SAN FRANCISCO LANDMARK, APRIL 15, 1892.

[Translated from Bertrand's "*Estudio Técnico, etc.*," Docs. pp. 123 to 126.

(Quoted on page 422 of the Statement.)

IN the Cordillera de los Andes, on April 15, 1892, the undersigned members of the Chilean-Argentine Sub-Commissions, having erected, by joint accord, at the San Francisco Pass, a landmark which shall serve as the starting point for the subsequent work of the demarcation of the boundary between both Republics, met on the above-mentioned date to draw up the respective Record, agreeing that each of the two Sub-Commissions should draw it up separately, in order to compare the two and come to an agreement as to its terms, with the exception of its technical part, as to which there exists complete uniformity. In virtue whereof, the Chilean Sub-Commission presented to the Argentine Sub-Commission the draft Record which is transcribed as follows :

" In fulfilment of the Instructions contained in the act of delegation of powers, under date of the 24th of February of the present year, made in favour of the undersigned, by the Experts on the part of the Argentine Republic and Chile, to proceed to the demarcation of the boundary between both Republics, on the 15th instant we met at the pass or gap of San Francisco, in order to commence our work by the determination of the point where must be placed the first

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landmark, which is to be erected on the said pass by virtue of the Agreement of the Experts dated the 29th of April, 1890.

“ In order to determine the point mentioned, we have borne in mind Article I. of the Boundary Treaty of July 23, 1881, which stipulates that the boundary line shall pass between the sources which flow down to either side ; and we have also paid attention to the topographical definitions, according to which a pass or gap of a chain of mountains is a depression of the water-parting line, where two opposite valleys have their common starting point, and whose precise location has its graphic expression in the tangent of the two contour-lines of lesser altitude which pass from one side to the other, in the basins of the said valleys.

“ The two main basins which are separated by the San Francisco gap are the Laguna Verde on the side of Chile, and the Vega de San Francisco on the side of the Argentine Republic, there existing, besides, between these two, small basins with no actual drainage, but which, in virtue of the above considerations, have been considered as tributaries of the Vega de San Francisco, owing to the fact that the passes which separate them from the latter are lower than that nearest to the Laguna Verde, where we have erected a provisional landmark, the position of which on the ground has been determined by true azimuths in the direction of the neighbouring summits, of which four photographic views were taken.”

On its part, the Argentine Sub-Commission presented the draft Record which is transcribed as follows :

“ In the Cordillera de los Andes, on April 15, 1892, the undersigned, members of the Argentine and Chilean Sub-Commissions, entrusted with the determination of the frontier line between both nations in its northern part, having met with the object of giving effect to the Instructions issued to

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them by the Experts under date of the 24th of February of the present year, and in conformity with what was agreed by the same Experts on April 29, 1890, as appears from the Record drawn up at the city of Santiago on the date mentioned, a certified copy of which we have before us, proceeded to the pass or gap of San Francisco in order to determine the starting point, and having found at this place several points which apparently combined similar conditions of eligibility, a preliminary survey was carried out, and the respective altitudes were compared by means of the barometer at an even temperature, as a result of which the highest point and the most convenient one for a starting point, was found to be the one situated in the central part of the gap and more to the west, approximately, or in other words, the nearest to the Chilean territory, which, consequently, was selected as a frontier landmark, and it was ordered to erect thereon a landmark, in the form agreed to by the Experts in the agreement quoted, of April 20, 1890. Consequently, they determined the point where the landmark No. 1 is placed, in the following manner."

These two Records having been compared, the Sub-Commissions, not being able to arrive at an agreement as to their terms, have agreed to leave them as they stand, and to submit them to the decision of the Experts, and to insert forthwith the data, as to which they are in accord, which served for the determination of the position of the first landmark erected on the pass of San Francisco, and which are as follows :

Latitude of the place : $26^{\circ} 52' 45''$ S.

True azimuths from the same point to the remarkable summits sighted :—

Point A.	(Nameless Hill)	N. $310^{\circ} 23'$ E.
„ B.	(„ „)	N. $356^{\circ} 54'$ E.
„ C.	(„ „)	N. $15^{\circ} 54'$ E.

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Letter D (Mount San Francisco)	N. 133° 2' E.
„ D2 („ „ „)	N. 133° 27' E.
„ D3 („ „ „)	N. 137° 30' E.
„ D4 („ „ „)	N. 144° 27' E.
„ E (Mount Incahuasi)	N. 179° 27' E.
„ F (Mount Azufre)	N. 203° 41' E.
„ G (Mount Laguna Verde)	N. 222° 17' E.
„ G2 („ „ „)	N. 223° 10' E.
„ G3 („ „ „)	N. 223° 37' E.

Barometrical pressure at the place of the landmark, 431 mm. ; Temperature of the mercury of the barometer, $+9^{\circ}$ c.; Exterior $+6^{\circ}$ c. ; ditto, at the gap more to the east of the landmark, 433, 2 mm. ; $+7^{\circ}$ c. and $+3^{\circ}$ c.

Temperature at boiling point at the place of the landmark, 84° , 9 c.

Variation of the needle, $12^{\circ} 47'$ towards the east.

We record also that, *owing to the advanced state of the season and to bad weather, it has not been possible to determine the longitude or to proceed to the erection of the permanent landmark.*

Made in duplicate on the date and at the place above mentioned.

ALEJANDRO BERTRAND, JULIO V. DIAZ, *Antbal Contreras, P., Luis F. Dellepiane, Alvaro Donoso Grille, Fernando L. Dousset.*

No. 50.

MINISTER ZEBALLOS ON THE BOUNDARY AT SAN FRANCISCO PASS.

[Translated from "*Memoria de Relaciones Exteriores de la República Argentina*," 1892, pp. 267-270.]

(Quoted on page 423 of the Statement.)

THE Argentine Government understood that, according to the text of the Treaty, the demarcation should begin in the north, whereby the said Treaty was faithfully complied with and the convenience of both nations consulted.

The regions of the south, indeed, are almost all unpopulated in the vicinity of the boundary, while in the north, Argentina and Chile are delimited by well populated provinces, rich in elements of labour, to the development of which the railways granted or under construction, open vast and fresh horizons, while many of them, on the other hand, will cross the boundary and become international.

The very progress of the agricultural and mining industries, demands the greatest clearness in the boundary line, in order to avoid frequent conflicts of jurisdiction, or the exercise of it by one or other state over territory of doubtful ownership. Once the boundaries are determined in the most populous regions of the two Republics, the development of the industries and of the population of both will be effected without hesitation and with absolute certainty, avoiding the occurrence of incidents which, if they never disturb international harmony, are

the cause of public alarm and of external and domestic uncertainty which mutual interests make it advisable to avoid.

Owing to the very proximity, in the northern part of the frontier, of the centres of population of both countries, the frequent communication between them, and the very detailed and accurate surveys which have been made of that region [the northern]—principally by Chilean geographers,—the points which have to determine the boundary, as well as the ground over which the line ought to run, are best known and most practicable;¹ and thus, in proceeding from north to south, the less difficult will be done before the more difficult.

Quoted
p. 423.

In this way, the practice and experience acquired will, little by little, but logically and infallibly, remove the obstacles which the facts present. In this way, too, the inestimable advantage will be obtained that, when the difficulties foreseen by the Treaty arise (if they ever do so), prolonged intercourse, continued co-operation in scientific works which so greatly elevate the mind, the common suffering of privations and fatigue inherent to mountain life, the rendering of services and of mutual help, will have developed already among all the members of the joint commissions, a spirit of companionship and friendliness which beget benevolence, thanks to which there is no difficulty that cannot be overcome.

The agreement of the Experts upon these ideas was complete. The Expert of Chile made no objection to commencing the work from the north, confining himself to observing that he accepted the procedure, without prejudice to his proposing the means he might think advisable, in case it should be necessary, for some unforeseen and urgent reason, to pay attention to the tracing of the boundary at other points of the frontier,—in which case, and even if it were agreed to send Sub-Commis-

¹ We call attention to these ideas which flatly contradict what is at present asserted, as to the Argentine Sub-Commission of the year '92 not being acquainted with the regions in which it was going to operate.

sions to those works, the demarcation agreed upon from north to south would not be interrupted.

The Argentine Expert communicated the result of the conferences on May 1 in the following terms :

“ I have the honour to address Y.E. with the object of informing Y.E. of the Sessions which up to to-day we have had with the Chilean Expert, and of acquainting Y.E. with what has been agreed to regarding the demarcation of the boundary between the Argentine Republic and this nation.

“ As Y.E. must be aware, from my Note No. 1, dated the 21st of last April, on the 20th we had the first conference with Señor Barros Arana in the city of Concepcion, as communicated to Y.E. by telegram, confining ourselves to mutually presenting our respective credentials accrediting us in the character of Argentine and Chilean Experts, and, after introducing the Assistants accompanying us, we declared the office in that city opened, thus initiating the preliminary works of our commission according to the stipulations of Article V. of the Convention of August 20, 1888. During the second session or conference, dealing with the extent which the work of demarcation should embrace, it was agreed that the said work should comprise the whole of the line fixed by the Treaties.

“ On my proposal, the subject of designating the starting point of the operations of the demarcation was at once dealt with, the province of Atacama being indicated for this purpose. But the Expert refused to give an opinion on this matter without previously consulting the Assistants whose duty it is to advise him regarding the works.

“ At this session it was decided to transfer the office to this capital, it being considered unnecessary that our conferences should continue to be held in the city of Concepcion, utilizing for this purpose the power which Article VIII. of the Convention of August 20, 1888, confers on the Experts.

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“ On our return to this capital, and upon my proposal, ^{Quoted p. 423.} it was agreed and specified that the Pass of San Francisco, in the Province of Atacama, should be the starting point for the works of demarcation ; also that the latter should be continued from north to south until their termination, so long as some unforeseen cause should not compel us to interrupt such works and continue them at another point, which, in such case, would be done by mutual agreement.”

Between the Pass of San Francisco, which crosses the Andes between Catamarca and Atacama, and the Bolivian frontier, there remains a portion of Argentine-Chilean boundary that shall be traced when the Argentine Republic and Bolivia have agreed on their definitive boundary. The Argentine-Chilean frontier shall then be prolonged to the north of San Francisco, for a short distance, until it meets the Argentine-Bolivian line.¹

¹ It should be observed that Minister Zeballos wrote this after the Argentine Congress had sanctioned, on the 12th of November, 1891, the boundary treaty with Bolivia, signed at Buenos Aires on the 10th of March, 1899, and after a modification had been introduced in its first clause. Minister Zeballos clearly states that the Argentine-Chilean boundary, prolonged north of San Francisco, meets the Argentine-Bolivian line which, therefore, must cross in that region in the direction of the parallel, and not, as we have seen it interpreted in Argentine maps of recent date, in the western range of the Andes.—(Bertrand's footnote in his *Estudio Técnico*, Docs. p. 58.)

No. 51.

DR. MAGNASCO ON THE PROTOCOL OF 1893.

[Extracts translated from Dr. O. Magnasco's book "*La Cuestion del Norte*," Buenos Aires, 1895, pp. 14 and 32-51.]

(Quoted on pages 495-497 of the Statement.)

(P. 14) SR. DR. O. OSVALDO MAGNASCO.

My distinguished Friend,—

" . . . An Argentine Commission is carefully studying that region (that of San Francisco), and their works, which will be complete, will enable us to strengthen the defence of our rights and to say the last scientific word in this respect. All the antecedents of the divergence respecting the landmark erected there are in the possession of the respective Governments, and I think that it behoves us to wait for the result of those minute studies.

"Our demarcating commissions in the Cordillera and Tierra del Fuego continue their work, and, although this year there has been—and there still is—a great deal of snow, progress will be made, and it is further hoped that the boundary line will be traced in the latter during the present season. . . ."

N. QUIRNO COSTA.

* * * * *

II.

(P. 32) Vattel said, with the classical precision which distinguishes him, that, in order to remove all cause of disagreement between nations, the frontier should be fixed with much

clearness and precision, and he attributed all the grave difficulties which arose between France and England after the drawing up of the Treaty of Utrecht, to the slight attention that was paid to the delimitation of their possessions in America. Clearness is the fundamental condition of an agreement ; the nations are strictly bound to it “ although there may be some which deliberately leave some obscurity and uncertainty in the conventions with the object of justifying a rupture—an unworthy artifice in an operation in which the greatest good faith should rule.”¹

This elementary principle of law deserved special consideration in our case, since the boundary was to fall upon territories which are so full of grave difficulties that only the most decided goodwill could successfully avoid. Undoubtedly the great stumbling-blocks in these frontier questions are the mountains : their nature, so full of complication of all kinds, makes them the object of fatal conflicts specially when they embrace considerable extent and rise between countries that have not been able to devote themselves to their general and detailed study.

(P. 33) Well, does the Treaty signed in 1881 conform to the maxim of the great writer ? Was the clear rule formulated in it which gave to each territorial sovereignty a well-defined jurisdiction ?

Judging by the incidents which occurred in the period of 12 subsequent years and above all judging by the interpretative covenant added in 1893, it would seem that the Agreement mentioned laboured under the disadvantage of some obscurity in its fundamental terms. *Had it been perfectly explicit it would not have needed an interpretation.* “ The boundary between the Argentine Republic and Chile ”—said the Treaty—“ is from north to south as far as the 52nd parallel the Cordillera de los Andes, the boundary line running in that extent along the highest summits of the said Cordillera which divide the

¹ Vattel, *Droit des Gens*, vol. i. vii. 92.

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waters and passing between the streams which flow down to either side.”¹

The controversy began from the first moment, as soon as there was a thought of the demarcating Commissions carrying out on the ground the application of the principle formulated in the covenant mentioned. And, without animosities unworthy of an expository publication, we are compelled, for the purpose of completely developing our opinion, to state the fact that the said controversy was provoked and maintained with extraordinary tenacity by the diplomacy of the Republic of Chile.²

(P. 34) All the antecedents which threw light on the matter were then brought into the discussion : similar demarcations carried out on mountains in Europe, opinions of the most authorized writers of the earliest epoch of international law and of the most recent date, as well as—in order that there should be no doubt—the individual opinions of that nation in similar questions which had arisen not long ago with the Republic of Bolivia.

All was in vain : Chilean opinion as expressed by its experts, thinking that it was sound hermeneutics to dismember the formula of the Treaty, maintained that by *divortia aquarum* the continental water-divide should be understood, without connecting it with the line of the high summits and much less with that which constitutes the Andean chain. In this way the frontier line evidently did not run over the chain of the main mountains, but very much to the east, penetrating into our territory to a really astounding extent. The exaggeration was notorious.

However, the doctrine was certainly not very discordant ; “ The water-parting line ”—said the most quoted of the writers

¹ Article I. of the Treaty.

² This has been proved afresh by the Memorial of the Expert of the Republic of Chile.

on these matters¹ when condensing the universal teaching—
“is formed by the highest crest of the chain. As the water-courses flow down to a valley to form therein brooks or rivers, the valley thus constitutes the centre of the communication between the settlers of the surrounding mountains. Nations have understood this easily, making the summit of the mountains their natural frontiers.”

(P. 35) Such was the doctrine of the Argentine Foreign Office: the high summits which divide the main waters *should predominate over any other consideration, but, exaggerating it later on, in order to set it against the extreme opinions of the other side, they believed to have a right of their own to dismember the formula, by maintaining the doctrine of the isolated summits.* With such ideas, we penetrated into the Pacific, among other parts in the vicinity of parallel 52°.

The gravity of the matter was clear in both cases, in the event of the trans-Andean Republic claiming the continental divide, and in the event of our desiring the tracing of the line by simply connecting the most elevated summits. *Casus belli*, said the then President of Chile to our diplomatist accredited there, without observing that the ports of the Pacific demanded by our country were the natural consequence of a doctrine as open to discussion as the contrary one, and without observing above all that the *casus belli* could not arise until an appeal had been made to the final resource of arbitration, established by what was, and is to-day, the supreme law of the parties.

It was not only owing to the opinion of the national Foreign Office, but owing to two exaggerated opinions, that a tradition worthy of respect was endangered and weakened: Chile must have the dominion of the Pacific; her geographical position has created this legitimate conviction in her people. Argentina should possess that of the Atlantic all along the extent of her littoral; similar reasons have influenced public opinion

¹ Bluntschli—*Droit International*, 297. Com.

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amongst ourselves in this respect. But Chile lies west of the Andes and the continental water-divide is as a general rule—or rather, always—on the eastern side of the chain.

(P. 36) As a tribute to this sentiment of respect the Argentine Government subsequently weakened their declarations, sending to our representative at Santiago, the following document which we can now make public :

“ *Frank and friendly bases.* The boundary line between the two Republics shall run over the highest summits which divide the waters in the dominant mass of the Andes, in accordance with the spirit of the Treaty of 1881.

“ If at any points the boundary should cut valleys situated to the east of that general direction, the line shall be thrown back by the Experts into the central massif in order to safeguard such valleys and their immediate heights, which belong to the Argentine Republic.

“ If the line should cut across inlets on the Pacific Ocean, or give ports on the said ocean to the Argentine Republic, the line shall be thrown back into the dominant massif in order to safeguard such parts and inlets of the sea with their immediate heights, whose dominion shall belong to the Republic of Chile. If the inlets of the sea are found to penetrate to the east of the boundary of the dominant mass of the Andes, and form ports in eastern Patagonia, the dominion over such water shall be given to Chile as far as the high-water mark.

“ If, when tracing the boundary in Tierra del Fuego, the line should give to Chile a port on the Atlantic in San Sebastian Bay, the boundary shall be thrown back to the west in order to safeguard the Argentine sovereignty over the said port in conformity with what was stipulated by the Experts in their Act of . . . 1890.

“ If, on the boundary line, rivers are found which, having their sources in Patagonia, flow into the Pacific, such rivers shall be divided between the two countries by the line of inter-

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section of the vertical plane passing through the general axis of the demarcation ; and it shall be declared that the part of such rivers to the west of such plane shall come under the sovereignty of Chile, and the part situated to the east of the mass shall come under that of the Argentine Republic.

“ Should the Experts encounter difficulties unprovided for by these declarations, the conciliatory and friendly method established by the Treaty of 1881 and ratified by the additional Convention of 1888, shall be applied.”

(P. 37) By these instructions the said tradition was at least saved, but the supporter—as distinguished as he is staunch—of the continental division of the streams, *could not regard as acceptable either the formula of the “ dominant mass ” or the method proposed for the division of the valleys and of the rivers*, in one instance, by the line being thrown back which Clause II. of the above-inserted instructions claimed to establish, and in the other case by the line of intersection of the vertical plane to which the last clause but one refers.

As a general rule controversies are like the concentric circles formed by bodies falling into water : they spread wider in proportion as they become more distant from their centre ; and so it happened with the debates between both Foreign Offices, interested, as they were, in securing a complete triumph for their individual opinions. We maintained, and still maintain, that the pith of the question was to be found in the Treaty of 1881 itself, in the formula of its first Article, and the further they got away from it, the more extended would the debates become, with no other result than a lapse of time, which might prove as profitable to some as it could be notoriously unfruitful to others.

It is not true that the said Treaty was really undefined in its terms regarding this point ; it is not true that it does not supply the general rule embracing all the principal cases ; on the contrary, we have always considered it adapted, in this

respect, not only to the needs and interests of both States in the dispute, but also to the unquestionable doctrines of public law supported by the opinions of the most notable commentators and writers.

It is sufficient to examine with intelligent attention the Protocol of 1893 as regards this aspect of the question, in order to see that *it does not in fine introduce any innovation, as it leaves the scientific formula of the original Treaty quite unaltered*. To believe that, because an additional Treaty had been signed, that of 1881 was ambiguous in its terms, is a harmless but notorious error, which it is advisable to correct even for pure truth's sake, by briefly comparing one with the other, with the sole interest that these pages can inspire.

(P. 38) " 1. It being provided, says the interpretative covenant by Article I. of the Treaty of 1881 that ' the boundary between Chile and the Argentine Republic is from north to south up to the 52nd parallel of latitude the Cordillera de los Andes,' and that ' the boundary line shall run over the highest summits of the said Cordillera which divide the waters, and that it shall pass between the sources flowing down to either side,' the Experts and the Sub-Commissions shall hold this principle as the invariable rule in their proceedings."

As may be observed, there is no need to enter upon a comment on this clause, to see that all this transcribed portion is confined to reproducing literally that of the previous Treaty. It contains no interpretation whatsoever to justify the title of interpretative which is assigned to the additional Treaty, the quotation ending with the inexpressive redundancy that " the Experts and the Sub-Commissions shall hold this principle as the invariable rule in their proceedings," as if, previous to the Protocol, they were not obliged to do so in virtue of the clause which is now transcribed from the very text of the previous covenant. Quoted
p. 496.

(P. 39) " Consequently there shall be held"—adds the new

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Treaty—"as perpetually belonging to the Argentine Republic and as under its absolute dominion, all the lands and all the waters, to wit : lakes, lagoons, rivers and parts of rivers, brooks and springs lying to the east of the line of the highest summits of the Cordillera de los Andes which divide the waters ; and as the property and under the absolute dominion of Chile, all the lands and all the waters, to wit : lakes, lagoons, rivers and parts of rivers, brooks and springs lying to the west of the highest summits of the Cordillera de los Andes which divide the waters."

As may be seen, in this final portion of the clause mentioned, an attempt is made to consider as explanatory what the other Treaty—and more than the Treaty, the general sense—explicitly established ; that all things to be found west of the boundary line ought to be Chilean, and those to be found to the east things of Argentine jurisdiction. On the other hand, the Protocol has introduced an enumeration *which is in good faith in-officious*, since it was to be presumed—and the Treaty of 1881 said so in general terms—that the line established by this Treaty must necessarily leave on one side or the other, or must sometimes cut, lands, waters, lakes, lagoons, rivers, parts of rivers, brooks, springs, and many other natural features, which the additional Treaty overlooks.

Quoted
p. 496..

(P. 40) The matter of the Treaties is indicated by the very nature of this kind of covenant. They simply legislate as to what is fundamental and hence they are submitted to the study and attention of Congresses. The latter cannot descend to details ; *it is not for them to do so* ; the more or less important details are always entrusted to the intelligent execution of the administrators of international affairs or to the regulative conventions of the Experts who, being incompetent as regards anything representing a modification of the covenant, whether restrictive or amplificatory, are, however, exclusive judges of procedure. For this reason the said enumeration would have

been adequate, together with other complementary ones, in the body of the general instructions which Ministers address to the chiefs of Commissions and which the latter transmit in their turn to the Experts and Executive Sub-Commissions.

When it first became known that the Governments of both nations were framing a new Treaty, those of us who followed the old question in all its details, believed that a complementary agreement, rather than an expository convention, would be effected upon matters not included in the original Treaty, and if not alien to, at least utterly independent of it—matters which inspection and study of the bordering territory had raised and suggested. Thus, for instance,—and with this we enter upon a brief examination of Article II. of the Protocol—a point completely different from those included in the covenant of 1881, was the confirmation by the Treaty itself of something which was hitherto a mere aspiration without a positive and conventional formula, viz.: the exclusive dominion of the trans-Cordilleran nation over the Pacific littoral, and our own dominion, exclusive also, over *the waters* of the opposite ocean: a declaration, once for all, that neither country could *pretend* to encroach on the littoral of her neighbour.

Quoted
P. 497.

(P. 41) The neutralization of the Straits—unfortunately an odd neutralization in fact—was the germ of the ulterior sanction now included in the so-called additional Protocol; but nobody will think of believing that this clause constituted an explanation of the Boundary Treaty, since this Treaty had said nothing categorical respecting it, and it is not possible to give explanations or amplifications of rules or principles which as yet do not exist expressly formulated.

Those who are acquainted with the circumstances which led to the negotiation of the new covenant will know that its object was to discover a formula that should reconcile the extreme opinions of one and the other Government relative to the frontier line of the Cordillera, and on this account, *the*

said covenant cannot be called interpretative, for the clause we are now examining constitutes *an act of legislation different from the previous one* upon matters notoriously independent. Thus, any convention whatsoever regarding commerce over the Cordillera, regarding means of communication in general, respecting scientific studies on one side and the other, etc., could undoubtedly be drawn up between both nations, but nobody would think of calling it an additional Protocol of the definite agreement of 1881.

And here we have the really useful part of the recent agreement, inasmuch as it shapes into a precept that aspiration which, not only existed in the general conscience, but also in the minds of the framers of the Treaty, as the Protocol appears to show ¹ when saying that :—

(P. 42) “ The undersigned declare that, in the judgment of their respective Governments, and according to the spirit of the Boundary Treaty, the sovereignty of each State over the respective littoral is absolute, so that Chile cannot claim any point towards the Atlantic, nor can the Argentine Republic claim any point towards the Pacific.”

But, unfortunately, the said clause would be annulled *ipso facto* if it were true that the Government of the Republic of Chile, adhering to the views of their Experts, have rejected the compensating views on the central range which gave occasion to the Protocol.

III.

(P. 43) As may be seen, up to the present, there is no innovation whatsoever as regards the frontier line or as to the manner in which the fundamental expression of the original compromise must be understood and applied.

Nevertheless, it has been said that the new arrangement

¹ On this point we rely exclusively on the text of the protocol and not on our private documents.

has closed the discussion as to what both Governments understood by "the line of the highest summits which divide the waters." The Protocol, it is added, has given the fixed basis for the operation; the Chilean Foreign Office will argue no further in favour of its doctrine of the continental divide, *nor the Argentine in favour of that of the highest summits*. We now have, by means of the recent agreement, the precise rule of the chain (*encadenamiento*) which neither one nor the other can abandon without compromising the good faith and honour engaged in its definite sanction. The controversy of so many years has happily ceased on this capital point, sound doctrine having triumphed. The temerity of either party has been confined within the limits of historical, geographical and judicial truth, and the executive commissions have now no further task than to effect, according to the new rule, the survey of the bordering territories and its application on the ground. How, then, can a convention fail to be explanatory which secures all this,—which closes a discussion of 12 years' duration, which defines the scope of the prescription of 1881, which definitively decides regarding the frontier line, and which finally states with precision and detail where the said line shall run.

(P. 44) We repeat that *such things have been said*, no doubt in good faith, but it is difficult to deal with such complex and futile observations. Continuing with the brief examination of the Protocol, it will be seen whether it is true that it has supplied any conclusive interpretation relative to the capital point; and recalling, as it is the fact, that even now, almost two years after its sanction, the discussions continue on the ground, it is not difficult to tell whether it is true that the new agreement has succeeded in bringing to an end the controversy upon this point.¹

¹ In a letter received on the 4th of February in the present year [1895], dated Santiago, the following is read:

"The Argentine Commissions cannot agree with those of Chile, as to the places in which the provisional landmarks should be erected. The former seek

(P. 45) Between the Chilean doctrine of the continental divide and that of the highest summits maintained by the Argentine Foreign Office, there was room, no doubt, for the intermediate doctrine which, reconciling these, should give the reasonable and technical basis for the tracing of the line. But is the happy expression which really harmonizes those extremes to be found in the Protocol? *Can it be said that the exaggerations of one and the other side have, with foresight, been reduced to the limits of historical, geographical and judicial truth and that the demarcators have now no other task than to proceed, according to the new rule, to the delimitation on the ground?* Let us continue, therefore, the examination of the Protocol since we have not yet been able to find in its first two Articles *the precept suppressing the controversy*, one of them containing the reproduction of the corresponding Article in the general Treaty, and the other a declaration regarding the ownership of the respective coasts.

In Article III. we again find textually repeated the provisions of Article I. of the preceding agreement regarding valleys formed by the bifurcation of the Cordillera, and for this

for the *Andean chain* according to the Treaty of Limits; the others insist on seeking the division of the waters on the branches or bifurcations of the massif. I have detailed information that this is happening between the Tinguiririca and the Planchon, where, *from Santa Elena, a western deviation of the Central ridge seems to present itself clearly. According to the water-parting rule, the landmarks would be placed outside of the natural boundary, as at Tiburcio [Pass] and Vergara [Pass]*, while, according to reliable information, a simple inspection tends to show that these passes lie on a secondary formation even geologically diverse from the true Andes. But it is to be hoped that all this will be arranged in conformity with the Treaty." Quoted
p. 527.

* * * * *

All this without taking into account the recent Memorial of the Expert of Chile. This happens owing to what we, with perfect reason have been criticizing: the Protocol ought to have said in its first Article what the Minister explained in Congress; in that form it would have been a most useful Treaty, that is to say, had there been inserted, what was then very feasible, the following simple phrase after reproducing the formula of 1881: "*Consequently the formula of the highest summits is rejected absolutely and also that of the separation of the continental waters.*" In this manner not even bad faith could allow any discussion to be carried on.

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reason the Protocol itself inserts them between inverted commas. " In the case, foreseen in the second part of Article I. of the " Treaty of 1881, of difficulties that might arise ' owing to the " existence of certain valleys formed by the bifurcation of the " Cordillera and where the water-divide should not be clear,' the " Experts shall endeavour to settle them amicably, causing " this geographical condition of the demarcation to be searched " for on the ground. To this end they shall dispose by mutual " agreement that a survey be made by the assistant engineers " which may serve them to solve the difficulties."

It must not be thought that what the Protocol does not publish between inverted commas is new : it is to be found in that of 1881 and in all the previous projects of treaty, with differences merely of grammatical construction and amplifications without any fundamental character or visibly useless.

(P. 46) Thus the original Treaty established that : " The difficulties that might arise owing to the existence of certain valleys formed by the bifurcation of the Cordillera, and where the water-divide should not be clear, shall be amicably solved by two Experts, one appointed by each party (who are the Experts to which the additional Treaty refers)." As to what concerns the rest of the clause added—"causing this geographical condition of the demarcation to be searched for on the ground," it is not, beyond all question, of the nature of international treaties, but even if it were, it clearly constitutes *an inexplicable redundancy*. How can the Experts know where the difficulty of the bifurcation or of the lack of clearness of the water-divide occurs, without having searched on the ground for this geographical condition of the demarcation, and without " disposing that a survey be made by the assistant (or not assistant) engineers, which may help them to solve it? "

In any case *the new rule regarding the frontier line is not yet to be perceived.*

* * * * *

(P. 48) The sixth and seventh [Clauses] are of a similar character and have an equal object. A résumé has been made of some dispositions adopted especially between the Experts, as appears in greater detail and more explicitly in the records. They also do not deal with the extreme doctrines ; there is no mention of the *divortium* or of the summits or of the range.

The eighth, concerning which we shall have an opportunity of expressing ourselves amply, as it constitutes the main object of these pages, refers to the fulfilment of the Act of the 15th of April, 1892, by which a joint sub-Commission selected as the starting point of the demarcation in the northern zone of the Cordillera, the San Francisco Gap, placing there the corresponding provisional landmark. Neither does this article—which could and, we beg to observe, ought to say so—establish any rule, differing in its expression from that of the Treaty, according to which the first transcendental landmark in the chain of mountains which constitutes the true, the traditional snowy Cordillera de los Andes, was erected, or will be removed.

The ninth confines itself to including in the Protocol something which is not strictly incumbent on it, by establishing three demarcating sub-commissions in place of two, a matter which evidently is—and which had already been—the function of the respective Foreign Offices. The tenth confines itself to formulating a general declaration regarding conciliatory sentiments, quoting the stipulations of Articles I. and VI. of the preceding compromise. The eleventh, or last, conforming to the previous observations, declares that, owing to the nature of *some* of the agreed stipulations, the Protocol will be submitted to the approval of the Congresses of both countries.

(P. 49) The arid and brief analysis we have just made reveals conclusively, it seems to us, that if it is true that *very explicit opinions* were given expression to in the preliminary negotiations for the Protocol or during the discussions between the Experts, the Commissioners and the Departments of State, and

(Quoted
p. 496.)

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in the Congresses, *this expression is not to be found in the fundamental rule of Article I.*, that is to say, in the place appropriate for it in the Agreement framed and approved as a supreme law for both sides.

Save the provisions of Articles II. and IV. which, in view of the arguments of the Chilean expert, might prove illusory, *nothing useful or clear* is contributed by this additional Agreement [of 1893], and, respecting the dispute as to the frontier line in the orographic zone (*la zona orográfica*), no categorical solution is therein contained.

Quoted
p. 497.

This is so because what was established in the rule of 1881 was clear and conclusive for many reasons, strengthened by a number of antecedents of various kinds, and by the opinions of the most distinguished writers, European as well as American.

This doctrine, which reconciled the two extreme ones maintained by the respective diplomatic representatives of both nations, is not, and could not be, other than that contained in that same rule and applied with complete good will.

The frontier line shall run *in that extent of the Cordillera along the highest summits which divide the waters*, that is to say, over what is called the *anticlinal line* of the mountains according to experts of universal renown, and the line of the highest apexes with the division of two "*vertientes*" according to the expression of a more authorized doctrine.

The said line, as we shall see, thus so eloquently imposed by the general sanction of all the States of the world, is that which the Republic of Chile upheld in her questions with Bolivia, as against the pretensions of the learned representative of the latter Republic who wished to save for his country the riches of Caracoles, a fragment of the territory comprised to the west of the Cordillera ; and such is neither more nor less, now the opinion of Argentina herself—it was that of Chile in '66, '70, '72 and '74—and that which we wish to see applied without further delay for the welfare of both countries.

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The public traditions of Chile and Argentina relative to the uninterrupted cordiality of their relations, the generous sentiment which has pervaded the drawing up of the Treaties, the many manifestations of reciprocal sympathy made on numerous occasions, the sincere co-operation of both countries in days of misfortune, the identity of their destinies and the community of democratic aspirations induce us to repudiate without hesitation that ungrateful suspicion of Vattel with which we commenced this paragraph of our Statement. We shall shortly see more clearly if there are obscurities in the definition of the Treaty, and it is to be hoped that, with no greater obstacles, the dividing line will be traced all along the extent of the Cordilleras, *leaving aside the isolated notion of the highest summits as well as that of the separation of the water-courses, in order to remember that only the notion of the main chain can give clearly and completely the notion of the true Cordillera.*

We believe that both Governments must be of this opinion ; in any case it behoves our Foreign Office to have in this respect a clear, defined and farseeing view, based upon the exact knowledge of the tendencies and interests entertained by our neighbours, and for this reason it is to be hoped that it will pay, as it pays to matters of this nature, all the attention which our interests demand and which the very sentiment of warm cordiality imposes.

This much as to what concerns the more general aspect of the Treaty, the rule of the demarcation in any latitude of the Cordillera ; because, as to what specially refers to the so-called question of the north, we shall shortly have to devote to it the consideration which its peculiar importance demands.

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THE ARGENTINE GEOGRAPHER, SEÑOR EMILIO B. GODOI, IN SUPPORT OF THE WATER-PARTING BOUNDARY LINE.

[Translation from Articles published by Señor Godoi in "*La Nacion*," of Buenos Aires, on February 16, March 12, March 22, April 10, and May 1, 1895.]

(Quoted on pages 499-501, 969, 970, 984, 985 of the Statement.)

1st Article in "*La Nacion*," February 16, 1895.

THE South American Continent extends between two oceans. Quoted
p. 499.

Let us leave out of consideration the Carribean Sea which washes it [the S. Am. Continent] on the north and receives the contributions of the hydrographical basins of the Orinoco and the Magdalena.

The waters of this continent are tributaries to said oceans and are consequently called Atlantic waters and Pacific waters. Quoted
p. 499.

Whatever be the form (lakes, rivers, sources) under which they appear on the surface of the continent; whatever be the place (mountain, tableland, plain, or valley) where they may be considered, they must be subject to *the essential classification of Atlantic waters or Pacific waters*, according to the side where the continental slopes should conduct them.

Once the rains fall on any point of the continent, they proceed to their goal, following a direction more or less direct, more or less tortuous,—retrograde at times—but invariably *subordinate to one of the two general continental slopes (pendientes)*; this fact classifies them as tributaries of the Atlantic

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Ocean or the Pacific Ocean, and it assigns each point as belonging to one or other continental side (*banda continental*).

Wherever the continent exists, there necessarily exist both sides, both watersheds (*vertientes*)—the one Atlantic, the other Pacific—*whether there be, or be not, a Cordillera for the casual observer.*

We may assume the continental chain to be as dwarfed as we choose in *height* (as seems to occur in certain latitudes), or as expanded as we choose in *breadth* (as happens in others); but the rainfall which goes to the Atlantic can never be mixed up with that flowing into the Pacific, nor can there possibly be any confusion as to the territories which receive and convey them to either ocean.

For such a confusion to occur, it would be necessary that there should be confusion between the oceans themselves, that the continent between them should vanish, that there should be a strait, a break in the continuity of the continent, or a termination of the latter.

When a chain of mountains is the boundary agreed upon between two countries, one of the two nations must be very quarrelsome and very fond of confusion, if they do not arrive at an understanding as to the material demarcation of the said limit.

Nature has done the work.

Men must have neglected to observe the fact, for any question to arise.

The boundary line is continuous, even if the Cordillera does not appear to be so; it is continuous so long as there is no interruption of the continent.

It must be determined by points.

We cannot presume to fix these at every kilometre.

Nor is it necessary.

Fifty points in five hundred leagues would suffice, and the location of a greater number of these is settled beyond discussion.

Quoted
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The continent is like a double sloping roof.

The ridgepiece (*mojinete*) is the Cordillera which generally forms the summit or highest part of the continental building, though this is not inconsistent with the existence, on each side, of a flagstaff which should not be confounded with the dividing line.

Every summit separates waters, but we must not confound the summits which separate them internally, with the summits which separate them between our domain and our neighbour's.

There must be no confusion between the flagstaff and the ridgepole.

The notion of highest summits (in the plural) introduced as a condition in seeking the points of the dividing line is dangerous, since it leads to uncertainties as to matters of fact which are insoluble by any method of discussion, and which can only be avoided by voluntary concession on the part of the one or the other party, leaving open to discussion points through which the advantage gained to-day may glide away to-morrow, or—more likely—giving rise to conflicts which are all the more serious owing to the informal and irrational system which it is sought to apply.

It is dangerous to substitute the test of advantage for the test of certainty, and any vagueness of system leads to this result.

It will no longer be a question of verifying facts, but of exchanging witticisms, and in the effort to show which is the wittier, we are speedily on the high road to proving which is the stronger.

The continental ridge generally runs from north to south, but not in a straight line. It is sinuous and shows inflections that, in some parts, alter its trend almost at right angles. From the dividing ridge, valleys descend, separated by secondary chains, normally to the direction of the former.

Quoted
p. 500.

These secondary chains, which form, so to say, the rows

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of roof-tiles, usually run eastwards or westwards; but where the ridge deviates from the general direction, they too change their course and are occasionally coincident with the meridian.

Between these secondary chains, flow the rivers of each continental side.

The starting points of two opposite secondary chains may coincide, and in such cases the ridge presents a point of maximum elevation.

Then there is an identical coincidence in the starting points of the opposite valleys, and the ridge displays a depression, or point of minimum elevation, called pass (*paso*) or gap (*portezuelo*). While this law, which is general, has no exceptions, the ridge presents a culminating point between two gaps, a gap between two culminating points, thus producing the vertical undulations of the ridge.

When a secondary chain on one side corresponds to a valley on the other, it usually presents a point of inflection at which the general trend of the system is modified.

Between the Argentine Republic and Chile, there are more than fifty gaps which are so many unquestionable points of the line whose determination is at issue.

Between each two of these contiguous or successive gaps rise the high summits corresponding to the starting point of both secondary chains; the central massif is crowned by the summit-line uniting the two passes, wherein uprises the maximum point or, in other words, the loftiest peak presented by the Cordillera between both openings.

Cases are not uncommon in which the said peak is not the highest.

It occasionally happens that, in one or both secondary chains, we find summits of greater elevation than on the ridge itself; true flagstaffs which are sometimes found on one side, and at others (less frequently) on our neighbour's side.

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These eccentric summits do divide some waters ; no summits fail to do so. Quoted
p. 500.

The fact that they are *high summits which divide waters* does not fulfil the conditions required for the boundary line. These high summits divide the waters of two or more brooks, tributaries of one same river, and form part of one same hydrographical basin, draining directly or indirectly to either ocean. Such summits, then, are within either territory, and not on their boundary line, though they are high summits and divide waters.

There may be cases which give rise to difficulties but never to discussion, in determining whether a given point does, or does not, belong to the dividing line.

I have said that the ridge presents undulations and that, on account of these, there are places in which it takes a trend almost perpendicular to its general direction.

Where this occurs, the secondary chains, that branch out normally to the principal chain, run in a north to south direction, and usually reach to an exceptional height showing snow-capped peaks that may induce us to regard the secondary chain as the prolongation of the principal one. Quoted
p. 500.

Both slopes (*faldas*) of this chain give rise to torrents, some of which flow west and others east.

This circumstance helps to lend to illusion, something approaching the substance of certainty.

But if we follow *the course of the western streams we acquire the conviction that they are tributaries of eastern rivers and that they form part of the hydrographical basin of the Paraná.*

It may happen that the material task of following the course of the said streams may present difficulties, and in like manner it may be difficult to determine the character of the secondary chain whence they arise. But such cases will be rare, and, whatever difficulties occur, we may confidently anticipate that they will be capable of solution if handled by competent men.

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And what men are these ?

They are not historians, like Barros Arana : doctors of law, like Quirno Costa ; engineers, like Virasoro, or San Roman, nor doctors of natural science, like Moreno.

They are the cow-boys, the muleteers (*vaqueanos*, *arrieros*), men used to crossing the mountains on mules or on foot ; who do not shrink from the precipices because they are familiar with them, nor do they find any road difficult ; neither are they dismayed by long stages nor by the hardships of a prolonged journey.

The question is not concerned in any way with the importance of the person, nor with his knowledge as a lawyer or engineer.

It is a question of endurance.

When it is ascertained by this humble and effective method whether a place belongs or not to the boundary line, then it is time for the officials to come and draw up records, for the masons to erect the landmark, for the surveyors and astronomers to determine the latitude and longitude of the landmark, and the bearings of the summits A, B or C, of the dividing ridge or of secondary chains, as taken from the point of the landmark.

Quoted
pp. 500, 501.

Then comes the turn of the geographers to take note of the verified fact, and those intent on warlike conflicts must regretfully erase from their register of discord a probability of international war.

2nd Article in "*La Nacion*," March 12, 1895.

Frontiers are either natural or demarcated.

When two nations agree on a natural boundary, demarcation becomes theoretically inofficious.

The dividing line is *a real and continuous line*, constituted by geographical facts.

The work of demarcation is done by nature.

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Men's share is limited to recognizing it as a frontier agreed upon and to verifying it as a hydrographical or orographical fact, according as seas, rivers or mountains may happen to determine it.

Non-natural boundaries are called demarcated limits.

These boundaries are constituted by straight lines and as a rule by lines subject, in their tracing, to geometrical laws, forming polygons with apices marked out by man, in default of the facts, from which natural boundaries derive their existence.

The usual names of *natural* boundaries for the one set, and of *demarcated* boundaries for the other, suffice to explain the distinction which exists between them, and the varying importance of the part which human agency plays in fixing them.

The dividing line agreed upon in Argentine and Chilean territories, from parallel 52 southwards to the southern extremity of Tierra del Fuego, is a boundary of the kind called *demarcated limits*.

It is subject to astronomic conditions, and its determination calls for the assistance of geodetical science, owing to the fact that it is dependent on a geographical parallel in one part of its course and to a meridian in another part (Articles 2 and 3 of the Treaty).

From parallel 52 northwards the boundary agreed upon is of the kind called *natural boundaries*: *the Cordillera de los Andes*.

Article I of the Treaty lays it down that: "The boundary line shall run in that extent over the highest summits of the said Cordilleras which divide the waters, and shall pass between the sources (of streams) flowing down to either side."

The chief author, the inspirer of this wording, declares that, in adopting it, he had in view the rule established by Bello and by Bluntschli.

Bello phrases this rule as follows :—

"When the boundary is a Cordillera, the dividing line runs

Quoted
p. 501.

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along the highest points of said Cordillera, passing between the springs of the streams which flow down to either side."

What is meant by the highest points of a Cordillera ?

The question seems trivial, and yet it is fundamental.

This question may be answered in two ways, according to the sense and the object with which it is put.

If we are in search of the highest points in a transverse sense, each route on each transverse section of the Cordillera leads to one of these points which occur where the route or transverse section ceases its ascent and begins to descend.

If we are in search of the highest points in a longitudinal sense, the quest leads us to the highest summits of the very ridge, an inquiry irrelevant to our purpose.

The aggregate of the highest points obtained by the indefinite number of practicable routes, or ideal sections, which may be drawn across the Cordillera, constitutes the dividing ridge (*ligne de faite*), an undulating line in its vertical sense, which runs from south to north; which is accessible at the lowest points and passes; inaccessible elsewhere, and mainly so as regards the loftiest peaks of the ridge itself.

This line " passes between the springs (*manantiales*) of the streams (*vertientes*) which descend to either side."

These springs occur two by two. A western spring corresponds, as a general rule, to an eastern spring.

The point which is found between them is the highest point in a transverse sense, but it is the lowest in a longitudinal sense.

At this point two lines of continental importance intersect, the line of the transverse section of the Cordillera, and the line of the longitudinal section.

From this point the transverse section dips towards the east and west; the longitudinal section, on the other hand, rises from this point towards the north and south.

Any one who has ever made the journey over the Cordillera,

any one who has ever crossed it, must necessarily have done so by one of the fifty odd passes or gaps which it presents ; and when following this route, *he has ceased ascending and begins the descent*, the muleteer who acts as his guide has remarked to him, " Now we are on the summit,"—and he has been in a position to verify the facts either on the spot, or in the course of his progress.

These lowest points are clearly determined, for they are accessible, afford practicable paths for traffic, and, by the universal consent of natives and foreigners, constitute established and recognized facts.

Uniting these lowest points in the dip of the undulations of the summit-line is this same line which forms between them the high undulations of the line of peaks and passes over the loftiest points of the longitudinal section.

Thus the summit-line (*ligne de faite*) is an undulated and continuous line whose lowest points occur in the openings or gaps, while its highest points we found on the space separating two successive gaps.

This line may be defined as the longitudinal section which passes over all the points of the range determined by the transverse sections of the system.

The gaps correspond to the starting-point of opposite valleys or rivers ; the high parts separating two openings correspond to the starting-point of opposite secondary chains.

The said culminating section is the line consecrated by international law as the natural boundary between two nations which have agreed to recognize a chain of mountains as the frontier of the territorial jurisdictions.

The line is continuous ; it is a feature which exists in nature ; it has accessible and inaccessible points, but all are actual facts.

Once those which are accessible are traced out, those which are inaccessible are determined.

Though the line be continuous, we cannot hope to effect its

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tracing materially on territory constituting a Chinese wall in its entire length.

This is neither possible, nor necessary. It suffices to trace out its accessible points.

The high summits—that is to say, the lofty parts of the summit-line which join each pair of accessible points—are determined by their very inaccessibility.

They may be mentioned as part of a definition, but not as entering into execution.

The Treaty, rightly understood, does not refer to them; nor does the rule of International Law.

Both speak of the highest points of the transverse sections: the points of the summit-line.

As regards the frontier question, it is unimportant whether Aconcagua be higher than Tupungato, or *vice-versa*.

To attach importance to a comparison of height in a longitudinal sense, would be the same as if we took into account the roughness of the sea when it forms the natural frontier.

Owing to their very inaccessibility these highest points of the main-ridge are the least important—though none the less real on that account—of the international boundary: they resemble rock-bound crests on a seaboard, unsuitable for the construction of harbours.

Doubtless the Supreme Architect set them there for the condors, the sole living creatures that perch thereon without attacks of vertigo.

But it is certain that, in creating these summits, He considered not man, or at least the generality of men, for, though guanaco-hunters habitually climb them, the ordinary patriot, be he high or low stock, cannot even name them clearly.

These high summits belong to the water-parting line.

Other parts of the summit-line likewise belong to them, the low parts of the ridge, the passes, openings or gaps of the Cordillera.

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This line, undulated in its vertical sense, and liable to a thousand sinuosities and zig-zags in its horizontal sense,—this line, formed by the edge of the upper and lower parts of the ridge, forms the natural boundary of two territories separated by a Cordillera: this is settled by the rules of international law, and is what is described in Article I. of the Treaty of 1881.

I neither know, nor care to know, its name in Greek or Latin: I suffer from a nervous complaint, which might be called *onomatophobia*, the symptoms being a loathing for substantives used instead of the substance. These afford a convenient ground for meddling with what one does not understand, and, far from helping towards the end for which speech was invented—which we understand to be mutual comprehension between human beings—the result is that such names lead to misunderstanding.

I am nowise concerned with *synclinal* or *anticlinal lines*, or even with *synclinal* or *anticlinal lines*.

I am nowise concerned with the *divortia aquarum*, and the “central chain,” and the “Cordillera Real,” and the “highest summits,” and all that farrago of names which nobody understands, including those who go through the farce of pretending to understand them.

Does the Cordillera bifurcate or form a loop (*ojo*)? Are enclosed valleys determined in such a way? I do not know.

If a mule thrusts its hoof into Uspallata Pass, it will leave, as the trace of its tread, a valley with two main ridges, one eastern and the other western: and the waters of both will flow into this enclosed valley forming a swamp or lake, and we shall have a case of conflict.

But let us leave the ants of both nations to solve it, and let us lift up our souls to more substantial matters which concern two kindred races, called upon to uphold the honour of our southern continent.

At the very pass just named exists the laguna del Inca.

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inaccessible, enclosed between two ridges whose convergent slopes are tributary to it. Where does it discharge its waters? Subterraneously, beyond doubt. Towards which side? The investigation is not worth making, and, moreover, it seems impossible.

The " Valle de los Patos " is a loop (*ojo*) formed by the high Cordilleras of the Espinacito on the east, and the humble hillocks of the Valle Hermoso Pass, and the Vuelta de los Caminos Pass on the west.

The volcano Aconcagua on the south, and the great Mount Mercedario on the north are the knots of the bifurcation of the Cordillera which give rise to the said valley.

The high eastern summits (Espinacito) are 3000 metres above this valley; the hills which bound it on the west are not more than 150 metres above the openings above named.

Two rivers rise in the Valley de los Patos on the western slope of the Espinacito. They flow obliquely on this west slope as far as the foot of the passes, and, leaving aside the low western hillocks, they turn to the east, join to form the Rio San Juan, and flow across the Espinacito by a narrow cleft 3000 metres high and several kilometres long,—a cut so narrow that there has been no attempt to make the track pass through it; the latter, coming from the east, ascends the bank of the river as far as the foot of the Espinacito, and, deviating from the former, ascends to the summit of the latter by the highest track in zig-zag within my knowledge.

Quoted
p. 985.

The " Valle de los Patos " is ours, that is to say, belongs to the Argentine jurisdiction. Accepted antecedents make it so, though its owners are Chilean to-day, and may be English to-morrow. This clear jurisdiction is determined by the low western hillocks; and the enormous crests of the great eastern masses, which unite the lofty Volcan Aconcagua with the colossal Mount Mercedario, are not powerful enough to remove it from there.

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And the Valle de los Patos, the most important and fertile of the Cordillera valleys, is 200 square leagues in extent, and possesses natural grazing grounds provided with admirable pasture and water.

How must we trace the boundary line between the two countries, from Aconcagua to Mercedario? By the lofty summits of Espinacito, leaving to the west the whole of the Patos Valley, with the western portion of the San Juan River and its tributary, which would be thus cut across? Quoted
pp. 985, 986.

No! Though a supplementary protocol that I have seen published (and as regards which I doubt whether it has been faithfully transcribed) foresees the possibility of the boundary cutting rivers or parts of rivers (Quirno-Barros?).

The Chilean will put forward no such pretension, nor would the Argentine admit it.

This is one of the dangerous vagaries of the demarcating test of the boundary.

Are we to adopt a straight line drawn from the top of Mercedario to that of Aconcagua, a line which would cut in two the Valle de los Patos? Quoted
p. 986.

No! The line recognized and accepted by the universal consent of natives and foreigners is the line of the hillocks in which the above-named gaps are situated, *a line which assigns all the rich Patos valley to Argentine jurisdiction.*

This instance, though abnormal—for it is an exception to the orographical configuration of the Andes—is not an isolated one, and suffices to demonstrate the dangers to which the vagaries of the criterion with regard to treaties and protocols lead us.

The *divortia aquarum* is in our favour in the north, where all the longitudinal valleys are ours. The same unwelcome location is adverse to us in the south where the ridge (*mojinete*) [separation of the waters on a roof] seems to be to the east of the highest summits.” Quoted
p. 986.

Not because of the existence of any western Espinacito or

any eastern Gaviotas valley, but because, in the region stretching from Chiloé to the Straits of Magellan, where the coast assumes a glacial character (Dr. Francisco Fonck), the Cordillera dips and the insular and peninsular ridges acquire more importance.

3rd Article in "*La Nacion*," March 22, 1895.

The frontier agreed upon with the neighbouring Republic includes the two kinds of boundary recognized by international law :

- I. A *demarcated boundary*, from parallel 52 southwards.
- II. A *natural boundary*, from the said parallel northwards.

In the former part demarcation is essential ; the line once marked, forms the boundary : till that be done, it has no real existence. The task of establishing it, was subject to astronomical operations which human effort had to effect by means of stellar observations, and calculations based thereon. This effort, entrusted to exact science, gave rise to two discussions as to the meaning of words, and this suffices to explain the certainty displayed in its execution, now on the point of ending definitively.

Elsewhere the demarcation is the work of nature. *The line exists*. Names are attached to it. *Men's concern is to recognize it* in consonance with these names, and here the difficulty comes in. Words, mere words !

To calculate the time with respect to Greenwich meridian, or in other words the longitude of any meridian with respect to the said meridian as starting-point, is a most delicate operation, subject to the minute cautions required in the application of science : such a calculation has been the fundamental work in tracing the meridian boundary dividing Tierra del Fuego from north to south.

In tracing this line it has been necessary to have recourse

to repeated verifications of an astronomical and geodetical nature, performed without let or hindrance by both Sub-Commissions on the still and steadfast ground of science. No words!

Not less delicate is the determination of a terrestrial parallel whose points are subject to the condition of a constant polar height: this work was a necessity in tracing the boundary in the portion in which it coincides with the 52nd parallel, and it has been carried out without hindrance.

No time was lost in words.

We come to the other part *where the boundary is marked by nature*, and we become so confused in defining it, that we pass over it without recognizing it, like the worthy gentleman who was looking for his piebald stallion and was actually riding on it.

The facts exist. The difficulty lies in the words defining them.

The facts must be used to give a precise meaning to the words. The latter will not guide us through the labyrinths of the Cordilleras.

Orographical facts will lead us safe out of the labyrinth of words. We already begin to see the proof of this in the work of the Sub-Commissions who see verbal enquiries vanish, when confronted with facts, precisely at the time when these enigmas disturb the hardest-headed man at a distance from the facts, inspiring them with anxiety or to possible errors, and suggesting to them the adjournment of the *very simple demarcating work already begun*.

Let us enter fearlessly into the labyrinth of words:

“The boundary between Chile and the Argentine Republic is from north to south, as far as the 52nd parallel of latitude, the Cordillera de los Andes. The boundary line shall run in that extent over the highest summits of the said Cordilleras which divide the waters, and shall pass between the sources [of streams] flowing down to either side.”

This article is a more or less faithful copy of the rule of international law on mountainous frontiers, which Bello states thus :—

“ When the boundary is a Cordillera, the dividing line runs along the highest points of said Cordillera, passing between the sources of the streams which flow down to either side.” (Quoted
p. 501.)

In order to find the highest points of a Cordillera, it is needful to know, in the first place, which the said Cordillera is, and then what is meant by the highest point of a mountain chain.

In order to ascertain which the said Cordillera is, nothing is gained by ascribing to it certain names as : “ principal chain,” “ central massif,” “ real Cordillera,” “ culminating crest,” “ predominating feature,” etc. It is necessary to appeal to the facts, and these only will tell us *which is the Cordillera*.

Once we know which it is, we shall gather from the facts which its highest points are.

We must visit the spots : without this, any gloss on the words is perfectly futile and even prejudicial.

Accordingly let the reader accompany me to the ground itself, and, *aided by the knowledge acquired in my journeys across the Andes*, I will lead him *to examine every possible doubtful case* ; we will travel together, we shall see the obstacles that mislead our judgment dissolve, we shall err, shall go astray, shall shake off our errors and blunderings, and at last we shall see clearly, acquiring certainty, and thus my companion will profit by my experience without sharing in the trials which its acquisition has cost me.

(1) The simplest case occurs on our entering the Cordillera by the canyon of an eastern river ; following the river-bank, we ascend up-stream ; the valley narrows progressively, enclosed between the two chains that form it and that rise respectively on our right and left ; the slope of the route increases as we proceed and approach its starting point or its upper source.

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The valley is tortuous, since the secondary valleys that form it send out, across it, tertiary offshoots which intertwine and compel the river to make constant bends.

Between the tertiary offshoots rise streams that are affluents of the main river, to which the right and left slopes, with all their irregularities and divides, are tributary.

Some of these tertiary offshoots, some of the ravines existing between them, occasionally assume extraordinary importance, giving rise to valleys irrigated by streams that at times attain the dimensions of genuine rivers.

The opposite tertiary spurs occasionally come almost into touch with one another, intercepting the [primary] valley, and forcing the river to break through *a deep and narrow gorge, where no road is possible*. These spurs, called *puentes* or *paramillos*, force the traveller to abandon the river-side and to ascend a "*cuesta*" or zig-zag road. There is a summit to this *cuesta*, but *it is not the Cordillera* because *the latter does not admit of being crossed by the waters*. It is not the primary Cordillera, nor even a secondary chain : it is merely a tertiary offshoot or spur. (Quoted
p. 501.

Let us cross it, and continue our journey westwards.

We have now reached a point where the right and left chains join ; the valley closes ; the valley route becomes an ascent.

Let us ascend.

We have now reached the summit : we are about to begin the descent.

The western slope, usually steeper, has a much longer ascent than the eastern.

We reach the western valley and in our descent we meet, in inverse order, with the same features which we met on ascending the eastern one.

The eastern river is Atlantic, the western is Pacific, and the waters divided by the ridge line are similarly divided.

In such a simple case as this, *there is no doubt that we have*

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crossed the Cordillera at a point of its summit which constitutes one of those defined in the Treaty as a point of the frontier line.

This is a maximum point in its transverse sense, and a maximum one in its longitudinal sense.

We may mark it out or not, but it exists and is authenticated by universal agreement of natives and foreigners.

(2) Let us undertake a journey to the other side, by the Pass of Angualasta [an Argentine village in 30° S. lat.] to the west of Jachal that leads to the [Chilean] valley of Elqui [valley of Coquimbo].

Quoted
pp. 969, 970.

We are compelled to pass three Cordilleras stretching from north to south ; Colangüil, la Deidad and la Punilla. Which of these is the Cordillera ? The easternmost is Colangüil, la Deidad is the middle one ; between these flows a river [Rio del Cura]. La Deidad is the highest ; between this and la Punilla, which is the western, another river flows [Rio del Toro]. Two of these chains are secondary : how are we to distinguish them ?

The chains which allow the waters to pass are secondary, whether this be effected by a circumvolution round their extremity, or because they flow across them in any way.

In the present case I do not wish to forestall any solution, but if both rivers [El Toro and El Cura] were ascertained to flow ultimately eastwards, the Punilla [Doña Ana] would be the Cordillera and its summit line is the boundary ; la Deidad and Colangüil would be secondary chains, misleading by reason of their direction and superior height. They would be short ranges, of local importance, not of any *continental importance*.

It may be supposed that one of the rivers flows across the Punilla and the other across Colangüil ; in which case la Deidad would be the Cordillera, and its summits the boundary. The facts alone, whether they are easy or difficult to ascertain, will give the decision beyond any possibility of discussion.

(3) Let us take our course westwards by the valley of the

Quoted
p. 984.

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Rio San Juan. When we arrive at the foot of the very lofty Cordillera del Espinacito, we have to abandon the valley and pass over this Cordillera. The river traverses it by a narrow defile.

Arrived at the western foot of the Espinacito, we find ourselves in the " Valle de los Patos " [de San Juan], this being an oblong depression (*ojo*) formed by a bifurcation of the Cordillera between the Aconcagua on the south and the Mercedario on the north.

We find ourselves between two crests : that of the Espinacito on the east, and to the west that of a chain of humble hillocks (*humildes cerrillos*) where the Valle Hermoso Pass and others are situated.

Which is the Cordillera ? Which of these two Cordilleras is the principal, and which is the secondary ?

The Cordillera del Espinacito gives passage to the waters of the Rio San Juan. The humble chain of hillocks on the west does not give passage to the waters. This is the Cordillera ; its summit line, accessible along all its extent, forms part of the boundary.

(4) Let us suppose that in the previous valley the waters find no exit across either the eastern or western Cordillera.

The converging slopes are tributary to it and convert it into a lake or swamp without any visible outlet.

Which is *the Cordillera* ?

Neither.

It is a doubtful case.

Certainly of trifling importance.

Example : the Laguna del Inca.

How shall we solve it ?

In the majority of cases, the wisest plan is to leave it unsolved, leaving in common the icy water and the consequent sterility of such swamps.

But, when it is thought worth while, the bisection of the lake or thalweg of the valley would be a convenient boundary.

(5) We have reached the summit of the Cordillera and we find ourselves on an extensive plateau.

Where is the line?

The plateau is not entirely level.

It is not the result of a lacustral deposit.

On this plateau there exist two opposite declivities ; however imperceptible, they exist, and *there exists likewise a crest-line at the intersection of the said declivities*. The points of this line are the highest ; this line constitutes the boundary ; their determination may require transverse levelling and their demarcation, numerous cairns or landmarks ; but *it is not liable to controversy*.

At the utmost, some occasions might arise for substituting in certain places, this natural boundary by a compensatory straight line.

Such compensations, which transform natural *boundaries* into composite boundaries, are possible in accessible regions.

In the Pyrenees, and, as a general rule, in the mountain frontiers of the European Continent, this is frequently the case.

In the Andes it will scarcely happen.

(6) We have passed from the Atlantic to the Pacific Ocean without crossing over any mountains. *We find ourselves in the glacial region near parallel 50*. Our course did not lie over level ground. *We have ascended during the greater part of our journey ; and beyond a certain point we have begun to descend. The case of the plateau presents itself again : there is a difference in height.* (Quoted p. 502.

The continent exists ; there must be some ridge. *Both cease at once when we reach the Straits. No discussion is possible.*

In our journey across the Continent we are compelled to attain a summit point, which belongs to the dividing line.

(7) Near the 52nd parallel, *in order to pass from one ocean*

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to the other, we have to cross over *several ranges detached from the Andes*, abutting on the sea.

Which of these is to be considered as *the principal one*?

The waters flowing between them are discharged, either into the Straits, into the Atlantic, or into the Pacific.

The Atlantic basins are ours [Argentina]; the *Pacific basins are our neighbour's* [Chile]; those tributary of the Straits are doubtful or, better said, to be divided per Agreement.

And which will be the dividing line?

One of the chains which end at the Straits.

In these terminal ramifications of the Cordillera, it is impossible to differentiate the main from the secondary chains.

All are main or secondary.

This is the one case worth studying.

Which of the Andean branches ending at the Strait shall form the boundary?

That nearest to the meridian will be a convenient boundary.

The Experts will settle it.

4th Article in "*La Nacion*," April 10, 1895.

The labyrinth of the Andes, most complicated for whomsoever plunges into it for the first time, becomes simpler and plainer to the eyes of one who has crossed it several times and at different points.

He who gazes on the Cordillera from the plain imagines it to be as he sees it, but how different is the reality!

Theoretical orographers—which amounts to saying the mountaineers of the plains—cannot compare with the muleteers on either side, when it is a question of taking our bearings in the maze of the mountains.

Each man shows best in his own atmosphere.

If we exchange their rôles, the muleteers will be as much in place in the ministry as the ministers on the Cordillera.

It would be a repetition of the case of the Englishman who

bought a drove of fifty cows, to whom the chief cowboy, a genuine creole, remarked on casting a quick glance over the head :—

“ Sir, the ‘*chorreada*’ [a peculiar colour of coat] is missing.”

“ The ‘*chorreada*,’ you say ? To me they are all ‘*chorreadas*.’ ”

Let us remove a minister, a theoretical orographer, to the agglomeration of mountains; when he hears it remarked that “ the *summit* cannot be seen from here,” he will say : “ To me they are all summits.”

When the first Article of the Boundary Treaty was drafted, the Ministers had recourse to Bluntschli and Bello in giving it form.

It was agreed that the Cordillera de los Andes should form the boundary ; *in the same way it was settled that this mountain boundary should be understood as writers on international law understand this kind of natural boundary.*

Bluntschli says (Article 297) :—

“ When two countries are separated by a chain of mountains, it is admitted where doubts exist, that the upper crest and the water-parting line *form the boundary.*” (Quoted
p. 682.

Commenting on the same Article he adds :—

“ The mountain chains frequently serve to separate countries. The water-parting line is given by the highest crest of the chain.”

We may note incidentally that the plural *form*, which we underline in the quotation, is wrongly used by Bluntschli, or at least is a blunder of the translator or compositor ; for if the upper crest and the water-parting line are the same thing, we should say : “ the upper crest, the water-parting line, *forms* the boundary.”

The upper crest of a mountain chain is the summit, the summit-line, which the muleteers on both sides briefly call *the line*.

The orographic system of a Cordillera, considered in its

horizontal projection, may be compared to a bipinnate leaf : from the central chain are detached on each side secondary chains which, in their turn, ramify into tertiary chains.

All these chains have a summit-line ; these summit-lines are the veins of the bipinnate leaf. Unquestionably in the orographical kingdom the facts are characterized by less regularity and symmetry than in the vegetable kingdom. The summit-lines of the system form a kind of palm-leaf, bipinnate in some parts, tripinnate in others. These same summit-lines, which are the veins of the system, present undulations in their horizontal and vertical sense : they all have parts more or less high, more or less accessible. *Generally the line of the main chain is the loftiest, but this is not always the case ; this is not a feature characteristic of the main Cordillera.* THE SOLE CHARACTER WHICH DISTINGUISHES THE MAIN CORDILLERA FROM THE SECONDARY CHAINS IS FOUND IN THE HYDROGRAPHICAL FACTS ; and the same thing happens when an attempt is made to distinguish spurs of any order from spurs of an inferior order which detach from them.

Without the hydrographical test, the orographical test lacks guidance.

When Bluntschli speaks of the upper crest which, according to him, forms the water-parting line, he refers to that central chain whence the secondary branches break off, with their ramifications and sub-ramifications, as happens with the veins of a composite leaf.

Bello formulates the same rule thus :—

“ When the boundary is a Cordillera, the dividing line runs along the highest points of said Cordillera, passing between the sources of the streams which flow down to either side.”

Quoted
p. 501.

The highest points of the Cordillera form its summit, called by the French *ligne de faite*, by the English *ridge line*, by the Germans *Kammlinie*, a line which, according to Bello, passes between the springs (*manantiales*) on either side.

Bello's notion is the same as Bluntschli's. The summit-line, according to them, coincides with the water-parting line and it forms the boundary between two countries which have agreed to recognize a Cordillera as a limit.

This, then, is what the negotiators meant when, adopting the idea of the two writers, they drew up the first Article of the Treaty which says :—

“The boundary between Chile and the Argentine Republic is from north to south as far as the 52nd parallel, the Cordillera de los Andes. The boundary line shall run in that extent over *the highest summits of the said Cordilleras* which divide the waters, and shall pass between the sources [of streams] flowing down to either side.

Do not let us be puzzled by the plurals I italicize.

The summit of the Cordillera is singular in orographical fact, though the Foreign Office multiplies it in the farrago of words.

The summit of the Cordillera is single, save when it bifurcates forming a loop, a rare case in our latitudes and of no importance.

In speaking of the summit of the Cordillera, it is, therefore, a pleonasm prone to confuse the very clear notion which the phrase involves, to speak of the *highest summit*. The *summit* is an *orographical superlative*, and the Foreign Office is open to the suspicion of disregarding this character when applying to it the epithet of highest.

If, to this sin against the summit, is joined that of mentioning it in the plural, as the Treaty does—“The highest summits,”—the attempt takes on a mixed character, because (apart from intentions) it leads to vagaries prone to change the sense, *confounding the summit with the summits*, the summit-line with the summits, apices or peaks. The true idea is a line, the summit-line, *that line which, in crossing the Andes, ceases to ascend and begins to descend*.

And, as though there was an intent to make the labyrinth of words more complicated than the labyrinth of the Cordillera, mention is made of the *summits of the said Cordilleras which divide the waters*, thus multiplying not only *the summits* but *the Cordilleras*.

Evidently the negotiators think them all “*chorreadas*.”

This phrasing, which we owe to Valderrama, leaves the field open to any kind of irregularity.

The Argentine addition, which made it a condition that the dividing line should pass “between the sources springing on either side,” suppressed, as was believed at the time, all ambiguity; but this belief has proved to be an illusion, for we have been reading the Treaty in the Foreign Office instead of reading it on the Cordillera.

The Joint Sub-Commissions that have sought its interpretation in view of orographical and hydrographical facts, have met with no hindrance. The Cordillera and the streams speak more clearly than the treaties and protocols.

The Expert Virasoro, in the remarkable article published by “*La Nacion*” on the 25th of March last, recalls the fact that the Protocol [Convention] of 1888 emphatically provides that the experts shall betake themselves to the ground in the exercise of their high and delicate functions.

But, despite this emphatic proviso, the Experts do not betake themselves to the ground, and this makes it necessary that the ground should be laid before them in the shape of maps traced by the joint Commissions of surveyors.

This necessity occasions much expense and—a grave matter—much delay.

The survey of the relief of a mountain district, however much reduced, even if it be a single canyon of the Cordillera, involves a considerable technical staff and many years of work.

All this time, expense and labour, would be avoided if the

rule was observed, if the Experts betook themselves to the ground for the purpose of solving *de visu* doubtful cases.

The most difficult cases would be solved in a fortnight, while the necessity of bringing the Andine labyrinth before their Excellencies' arm-chairs would need centuries and millions and—what is a weightier consideration—would lend itself to exaggerating the difficulties of the problem owing to the delay in its definitive solution caused by this procedure.

There are points so extremely easy to demarcate that this is almost unnecessary, and where, strictly speaking, there is no need for the Experts to visit the ground, or for the ground to be brought before the Experts ; but the correct procedure is that laid down by the Protocol [Convention] of 1888 in Article III.

It is not possible to convert a cowboy into a minister, but the most verbose and erratic minister can soon be turned into a good mountaineer : to attain this transformation he must penetrate into the labyrinth formed by the mountains and wring the explanation of the enigmatic meaning of the texts from the orographical facts.

5th Article in "*La Nacion*," May 1st, 1895.

In endeavouring to fix the dividing line in consonance with Article I. of the Boundary Agreement, we must seek the highest points of the Cordillera. These fix the line.

But in what sense should the highest points be sought ?

In a longitudinal sense ?

In a transversal sense ?

In the first case, we come to the summit-points of the prominent mountains.

In the second we come to the summit-line of the system.

This is the line which must be crossed wherever the passage of the Cordillera is made.

The said line marks the spot where the ascent ceases and the descent begins.

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It has accessible points, which are the passes, openings or gaps where, up to the present, *the demarcating Sub-Commissions have set the landmarks.*

It has, further, inaccessible points which are usually the sections of the said line contained between each successive pair of gaps.

The accessible points are well known, and are determined by the universal agreement of natives and foreigners; the inaccessible points are determined by their very inaccessibility.

This line of heights, marked out by nature, constitutes a real orographical fact; it is undulated in a vertical and horizontal sense; *it rises, dips, turns east or west, but, so long as the continent lasts, it is unbroken.*

This is the line which Article I. of the Treaty sought to define when it said:—

“The boundary between Chile and the Argentine Republic is from north to south, as far as the 52nd parallel of latitude, the Cordillera de los Andes. The boundary line shall run in that extent over the highest summits of the said Cordilleras which divide the waters, and shall pass between the sources [of streams] flowing down to either side.”

All the plurals in this definition are wrongly used.

The idea is singular.

The Cordillera is one: the summit of the Cordillera is also one.

Neither admits of a plural.

The summit-line is the *geometrical locus* of the highest points of the Cordillera which should be sought one by one, whenever they occur, *in a transverse but not in a longitudinal sense.*

Unquestionable as is the idea involved in Article I. of the Treaty, there have been enlightened men on both sides who, misled by the unhappy phrasing, have set forth in search of the high summits in a longitudinal sense, imagining that the natural mountainous boundary agreed upon must be converted

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into an artificial boundary and must consist of a polygon, formed by the union of the peaks of the loftiest hills of the Cordillera by means of straight aerial lines.

Let us examine this system of demarcation so as to form an opinion as to its relative exactitude.

In the first place, we must define what is meant by the highest summit or highest mountain.

Are they those exceeding 5000 metres ? In the ten degrees between parallel 24 and parallel 34 we have twenty peaks which exceed this height. In the eighteen degrees farther south, no peak attains this height.

In view of this, how can we establish the lower limit of what we must call a high summit ?

How can we choose the peaks to form the apices of the polygons ?

We have seen that, according to this system, the natural boundary is converted into a demarcated boundary.

In dealing with demarcated boundaries, it is a necessary condition that international agreements should establish them, designating, one by one, the points which are to constitute every apex of the polygon and also the lines which are to form it.

In the case under review, those conditions do not obtain.

Nature gives us a certain number of apices.

The only guidance afforded by the Treaty is that they should be the highest.

The highest is the peak of Aconcagua, 6835 metres. We cannot neglect this.

The others are less lofty : Mercedario, 6797 metres ; Tupungato, 6434 ; Maipo, 5917 ; Los Tórtolas, 5916, etc., and these are open to discussion.

In this uncertain state of things, every possible polygon must be drawn. It would be for a protocol, drawn up by agreement between the ministers, to select among them.

Now, in the region of prominent peaks attaining heights

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exceeding 5000 metres, there is a greater number of peaks which are detached at an inferior elevation, and these cannot be rejected as possible apices of the polygon.

Further south, as far as parallel 52, the apices gradually sink to less than 1000 metres and their number amounts to hundreds.

We may construct a polygon including one or other of these apices, and this constitutes the indeterminate element of this system of demarcation.

Let us form some idea how far this indetermination may lead us.

Let us conceive ten summits only. We may combine them in twos, in threes, in fours, etc., even in tens.

Each combination may be taken as a base for a separate form of demarcation. Accordingly we shall have as many different frontier lines as there are possible combinations.

Working it out, we have 1022 polygons as the result. That is to say, 2^{10} minus 11.

With eleven summits we shall have 2035 lines or 2^{11} minus 12.

With twelve peaks, we have 4043 frontier lines or 2^{12} minus 13.

Is it not a fact that the problem proves more indeterminate than it seemed?

As a rule, if there be n peaks, the number of possible polygons equals 2 raised to the n th power minus $(n + 1)$.

Stated in words :—

Given the number of apices, subject to two of which all possible lines are to be traced, the number of these lines is represented by a power of 2, the power being the given number, and from this total must be deducted the given number minus one.

Thus with only 64 peaks we should have as many lines as the number of grains which the inventor of chess asked for his invention, when he begged the Hindoo monarch to give him

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one grain for the first square of the board, two for the second, four for the third, and so on to the sixty-fourth square: amounting to eleven billions of hectolitres of corn, which it would take the earth 2795 years to produce, that is if we raise the annual yield as high as four thousand millions of hectolitres.

Obviously, once the human intellect launches out into the field of speculation, it is richer in nonsense than is the earth in cereals.

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THE ARGENTINE ENGINEER, SEÑOR JERÓNIMO DE LA SERNA, IN SUPPORT OF THE WATER- PARTING LINE.

[Translated from an Article published by Señor de la Serna in "*La Prensa*" of Buenos Aires, on February 26, 1895.]

(Quoted on page 502 of the Statement.)

THE Irigoyen-Echeverria Treaty, agreed upon by Chile and the Argentine Republic in 1881, definitively set forth the formula to which the demarcation of the boundaries between both nations must conform.

The additional Protocol of Quirno Costa-Erazuriz of 1893, complementary to that Treaty, explaining its terms and its dominant spirit, shows that the boundary question does not consist in a dispute as to a determined territory, but simply on the right understanding as to which is the *divortium aquarum*, and the actual line of the highest summits which divide the waters between two principal hydrographic basins that descend from either side of the *summit edge* to the Atlantic and Pacific shores respectively. Quoted
p. 502.

The question, being thus simplified and confined in these two documents, which, *from a scientific standpoint* are correct, is reduced to seeking that *crest or edge of separation* by accurate surveys and minute observations on the ground.

Because it is necessary to declare it, by these solemn Treaties, the question has been completely removed from a diplomatic

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ground to a scientific ground, in which there is clearly no discussion as to rights of possession or as to obsolete jurisdiction of dominion arising from the colonial epoch.

The question lies simply in delineating on the ground, by means of visible landmarks, the line of high summits on the intersection of the upper borders of the principal watersheds (*vertientes*) of the Cordillera, whereby the natural boundaries between both countries will remain definitively and visibly fixed.

Are doubts or uncertainties possible in the determination of the actual demarcation of such a line ?

Relying on our own observation and on the general scientific knowledge as to the orography and hydrography of the continent, or of any section of such to be considered, I have the decided opinion that *there can be no doubt*.

But, to guard against the intrusion of these doubts and uncertainties, the operations must begin at the beginning, in conformity with a logical, rational plan which, by clearing up obscure points beforehand, will avoid the narrow and tortuous bypaths of discussion, which should be purged of sophistry and illuminated by the noontide light of truth and science.

To obtain this result, it is a present necessity to confine ourselves to the study of the rugged ground of the Cordillera, surveying with all possible accuracy its general structure and chief features, determining the section of its principal *passes* or *gaps*, of its highest apices, *and of the rise, course and discharge of its waterways*.

That is to say, instead of launching commissions at hazard to place landmarks at points determined at random of the supposed summit-line, a beginning should have been made by seeking points of the *true summit-line which separates the watersheds*, by means of unquestionable scientific data and patient and laborious research.

By this means we should have avoided the now famous San

Francisco and many others which will doubtless be met with later on if we continue to mark out *the hydrographical line of the high summits* in the capricious and unscientific form adopted.¹

It may be objected that the general survey of the Cordillera and the study of its many features would require too much time ; but to this we may reply by asking of what account are fifteen or twenty years, when dealing with the solution of so important a scheme, the concrete formula of which it has taken fifty long years of discussion to establish, the completion of which has taken twelve more, and which will take fifty if not handled in an upright spirit, and which may, in this last event, lead us to the abhorrent field of battle ?

But we may further reply that to adjourn the question, with the object of introducing scientific studies, is to solve it.

For, time is the mightiest factor in procuring this result as is shown by the very formula of the Treaty of 1881, which it has taken fifty years to condense and, so to say, mature ; and by means of which a great advance has been made, the ancient dispute being transferred to a region of peaceful, sober conclusions, whence it should on no account be removed.

We may further reply that the minute study and the construction of maps of the Cordillera will, finally, be an immense gain to the material progress of both countries, for, apart from its transcendental importance so far as regards the settlement of the main question of geographical knowledge which concerns science, they will—as happens in the case of cognate studies in more advanced countries—serve as a basis for great commercial and colonizing undertakings, and canal and railway schemes : all of which aiding the population of these remote and unknown

¹ Señor La Serna was misled, doubtlessly by the information of the Argentine Commission, who maintained that the San Francisco landmark was not planted on the Continental divide.

territories, will facilitate political solutions and be the strongest bond of peace and fraternity between both races.

The Treaty of 1881 having accepted that the Cordillera of the Andes is the natural boundary which, from north to south, separates Chile from the Argentine Republic, let us define geologically [*sic*] and in general terms what is this Cordillera.

In the South American continent, it is the most upraised line (*el mayor relieve*) of its vast extent which—dividing from north to south the emerged surface—determines *two great hydrological basins or principal watersheds* (*dos grandes cuencas hidrológicas o vertientes principales*) which compel the waters falling thereon or rising therefrom *to flow invariably towards either of the great oceans*, which confine on the east and west, respectively, the continent in all its long extent. Quoted
p. 502.

TO THE WESTERN HYDROLOGICAL BASIN CORRESPONDS THE CHILEAN TERRITORY. TO THE EASTERN HYDROLOGICAL BASIN CORRESPONDS THE ARGENTINE TERRITORY. Quoted
p. 503.

In order to determine on the ground the extent which corresponds to one and to the other of these *two principal basins*, what is required?

Only to determine *the actual line of the highest summits which divide the waters and passing between the sources (vertientes) flowing down on either side*; that is to say, between those belonging to one or the other of the *hydrological basins* in which the Argentine and Chile are respectively situated, which constitute the territorial extents, naturally divided, that both have agreed to consider as belonging to their proper and exclusive sovereignty.

It may be asked: what are *the distinctive characteristics of the dividing line of the two hydrological basins*?

In the first place: that, being that of the greatest height among those which may be traced parallel to it, it is necessarily *the natural division between both principal hydrological basins of the emerged continent*.

In the second place, that, as the Cordillera exists all along the continent, *the said line must run, without any solution of continuity throughout, fulfilling its natural condition of separating the two watersheds [that is to say, the aggregate of the slopes] down which the rain and spring waters flow to the sea (conductoras de las aguas meteóricas i surjentes hasta el mar)*, this being the lowest level of their whole course.

Let us clear up this notion.

Let us suppose the Cordillera and the two basins which it divides to be longitudinally cut by a series of superficies parallel to one another, one of which shall contain the entire real line of loftiest summits referred to in the Treaty of 1881.

Where the supposed superficies meet the actual surface of the ground, their intersections with the latter determine lines which will be situated at various heights above the level of the sea, which are called contours, and between which will be situated two lines lower than all the others, corresponding to the level of the Atlantic and Pacific Oceans.

Among them, moreover, will be one placed at a higher level, situated on the loftiest summits of the emerged territory and which, on account of its greater elevation, will have the exclusive property of establishing the natural separation between *the two chief hydrographical basins of the continent*.

Accordingly, all the waters that flow over the latter must necessarily belong to one or other of the two basins and *a knowledge and study of these streams will be the best means of establishing definitively the line of summits*, which thus becomes the true line of the *divortia aquarum* and consequently the *boundary of the territorial jurisdiction between both countries*.

But, it is said, the Cordillera, before plunging into the ocean waters in the south, undergoes a series of ramifications or dislocations, and flattenings or depressions, which *cause the continuity of this summit-line to disappear*: hence (is it said also)

the criterion of the *divortia aquarum* maintained by Chile is unacceptable as the international frontier in that region of the territory.

We do not know, nor have we succeeded, despite our best endeavours, in understanding which is the *divortia aquarum* put forward by Chile.¹

But what we certainly do know, by the light of science and by the honest interpretation of the treaties agreed upon, is that *there is no other DIVORTIA AQUARUM than that which coincides with the continuous and sinuous line of the highest summits*: that is to say, *a line which passes between the watersheds on one side and the other*, and runs over the highest summits of the Cordillera which divide waters.

This being understood, let us see whether the formulae of the Treaty of 1881 and Protocol of 1893, allow of another interpretation which might lead to the adoption of a different line as the international boundary.

To begin with, only one is discovered which might be drawn along the most elevated peaks (*vértices*) of the chain, under the supposition that the Treaties refer to these.

Such a line, which, necessarily, would result broken and polygonal, would have its angles situated in the axis of the said highest *cones*, *apices* or *summits*, and be composed of straight lines, drawn from one to the next of those culminating points.

The last named condition would lead to *the polygonal line cutting alternately valleys and watercourses and it would thus result that the headwaters of the latter would lie*, apparently for instance, *on the western watershed, and their course totally or partly on the eastern watershed*, a result which is simply monstrous, and in consequence, *the said polygonal line would be debarred from complying with the express condition of passing*

¹ It will be remarked that Señor La Serna believes in good faith that it was Chile who endeavoured to deprive the term *divortia aquarum* of its sense of a total separation of the waters, of a *continental divide*.

between the streams flowing to either side, since, on the contrary, it would cut them at every step. No further demonstration of this is necessary, so evident is it.

Let us see, moreover, how *the true summit-line which actually separates the two hydrographical basins of the Atlantic and Pacific* will lie, in the possible cases in which the Cordillera is dislocated, divides into various branches, or forms flat surfaces and depressions.

It is indubitable that, at first sight, the existence of the summit-line may be doubtful in such cases, or that the accidents and transformations that the ground may have undergone have caused it to apparently disappear.

But, in point of fact, it cannot be so, because *watercourses must exist, as well towards the Atlantic as towards the Pacific, belonging to the respective hydrological basins, and consequently the dividing line shall run between these watercourses.*

Let us take the particular case in which the line [the salient ridge] be apparently interrupted by a *depression*. Quoted
p. 503.

This depression may contain water and form a *lake*, whose waters will find an *outlet* over one of the borders, either towards the eastern or towards the western slope. The *border opposite* to that where the overflow occurs *shall be held as the prolongation* of the summit-line, as it is the highest of the two.

Or supposing the depression to be waterless, in this case, in order to find which is the highest border and prolongation of the summit-line, *a geodetical or barometrical levelling must be resorted to.*

Let us now consider the case in which it [the summit-line] divides into branches of apparently the same height.

If, between these branches and the valleys formed thereby, *watercourses* exist, *these must discharge into one or the other of the two oceans*, and then the *nationality of the basin in which they flow can no longer offer any doubt.* In the case when no watercourse exists, the operation of taking levels will again

become necessary so as to discover, among the various branches, which is the highest, that is to say, the continuation of the summit-line.

In the case where the dislocation of the Cordillera towards the east or towards the west *be very considerable*, along such feature there should always run a principal summit-line which divides the two hydrological basins, and, *though such division may be found on a plain, this circumstance does not deprive it of its character of a principal divide.*

To sum up, the thesis we maintain in the foregoing statement of our ideas, based on scientific considerations, is that, *given the text of the Treaty of 1881 and the Protocol of 1893, and the prevailing spirit in these agreements, it is not possible to accept the hybrid existence of rivers, with two nationalities*, in the orographical nature of the Cordillera de los Andes. Quoted
p. 504.

If this were admitted, *there would be watercourses, Chilean for instance, at their source and for a part of their course, and Argentine for the rest, and vice-versa.*

How could this circumstance be reconciled with *the actual and indubitable existence of the two principal hydrographical basins, unique and distinct*, formed by the relief (*relieve*) of the Andes all along the emerged continent?

What has just been said concerning the south of the continent is applicable to the northern extremity of the boundary line and to the pass of San Francisco.

In these latitudes the Cordillera has undergone considerable expansions. Many important ramifications of its chief nucleus seem to detach towards the east, and thus confuse the precise determination of the line of loftiest summits which separates the waters.

But this in no way involves the disappearance of *the dividing line of the two hydrological basins*. One or other of these ramifications must include *the true water-parting line*, that

which, as a rule, lies at a higher elevation above the sea-level than any other parallel to it.

This line will assuredly be found by means of a rapid leveling carried out with barometer or hypsometer and, if necessary, by surveying a complete transverse section of the region at the accessible passes : all of which will yield a result sufficient to identify the unknown line.

In order to fix any landmark it is necessary to resort to *these preliminary scientific proceedings* supplemented by careful explorations in the region as well as *of the watercourses, their origin, and their discharge or incorporation into the vast rivers which traverse districts at a distance from the disputed zone.*

No other proceeding is conceivable in the case of ground of such variety and full of anfractuositities wherein there is great difficulty in measuring and comparing at first sight the elevation of the summits, and where the watercourses, after following a certain deceptive course, suddenly change their direction, owing to the natural anfractuositities of the ground, and turn where least expected.

It is to be assumed that, after San Francisco, the placing of the landmarks will be effected subject to minute and conscientious preliminary research, if it be not thought better—as we strongly desire—to postpone their location till we acquire an exact knowledge of the true relief of the Cordillera, its approximate planimetry, and *the origin and course of the streams among all the anfractuositities encountered in their route.*

And since it is manifest that the San Francisco landmark was set up without any precaution being taken to secure its location in conformity with the treaties, and since this location, on the other hand, has not yet been ratified as the treaties provide, the Argentine Republic cannot accept this landmark as final, nor can she, under any pretext, submit this matter to arbitration.

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The best judge in this case would be the result of the scientific investigations concerning the orographical region of San Francisco, and to accept any other whatsoever would be unworthy of our country.

A refusal on the part of Chile to settle this incident by means of investigating the region in which this landmark has been set, would show that this operation was the result of trickery based upon the most elaborate deception.

Let us, by the exercise of mutual good faith, inspired by sincere, lofty and patriotic sentiments, avoid transferring to the awful field of battle a question which should be solved by scientific means, and let us all, Argentines and Chileans, strive that the Andine sun shall come forth to cast its golden rays on the steel railway lines, and in nowise to shine on the death-dealing mouths of Mausers and Krupps, those horrors which remind us of the distant ages of barbarism, and to the construction and perfecting of which man, as though bent on satirizing our civilization, lends all the force of his resplendent genius.

JERÓNIMO DE LA SERNA.

No. 54.

THE CHILEAN EXPERT'S DRAFT INSTRUCTIONS IN 1893.

[Translated from Bertrand's "*Estudio Técnico*," Docs. pp. 135-137.]

(Quoted on page 509 of the Statement.)

PRELIMINARY OPERATIONS.

1. THE chief of each Sub-Commission shall provide himself with all the plans and descriptions existing relative to the zone in which he will have to work. He shall also take with him all the instruments he may deem advisable, with duplicates of those which serve to measure heights.

2. He shall prepare in advance an estimate of the expenses of his expedition which he shall present to the respective Expert in order to obtain the funds to be placed at his disposal.

3. The two chiefs of each joint Sub-Commission shall form, by joint accord, a plan of the work for the season, and an approximate list of the points on which landmarks are to be erected. They shall hold as the rule that a landmark must be placed at each point of the water-parting line where it is crossed by a road or pathway, and on each pass of same which may be susceptible of serving as a point of communication between both countries.

4. In view of the preceding list, once it is approved by both Experts, each joint Commission shall provide itself with a sufficient number of iron pyramids which are to serve as landmarks.

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These pyramids shall be taken to a place whence their distribution may be made to the several points demarcated during a season.

The chiefs of each joint Sub-Commission shall decide in each case, and with the approval of the Experts, whether it is advisable to erect provisional landmarks or fix the pyramids, according to the facilities for transport offered by the roads and the knowledge they may possess of the locality.

WORK ON THE GROUND.

5. As, according to the Treaty and the Experts' agreements, the water-parting line is the one which shall serve as the frontier between the two countries, the demarcation of the boundary is reduced to the fixing of the accessible points of said line, that is to say, passes or gaps. Quoted
p. 509.

6. In the region of the Cordillera in which the course of the waters is continual and visible, the simple inspection of the ground will enable the Commissions to fix with precision the points of separation of the streams.

7. In the regions where the ravines are habitually dry, an examination shall be made of the declivities of the ground, to find each point of separation, or beginning of the opposite valleys.

8. Where one or more valleys, or basins, with no actual outlet are found, levels shall be taken between the several outlets of the said valley or basin, in order to locate its topographical outlet and to determine its hydrographical dependency.

9. Where there should be found, in the region of the water-divide, tablelands or marshes on which it is not possible, with the aid of the spirit-level, to find a definite line of separation between the opposite headstreams, or where there are springs, rivers or lakes discharging their waters towards both countries, the whole of the doubtful region shall be surveyed topographi-

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cally, and every information shall be collected, which can serve as a basis for effecting an equitable and amicable solution.

10. At every point where a landmark is to be fixed, whether a provisional one or an iron pyramid, bearings shall be taken of the most notable points of the horizon, as well as photographic views in order to identify each place.

An Act shall then be drawn up, wherein it shall be stated which are the opposite valleys between which the chosen point serves as a separation, and all the other data and circumstances appertaining thereto. This Act shall be signed by all the Assistants of the joint Commissions.

GEOGRAPHICAL AND METEOROLOGICAL WORKS.

11. Each Sub-Commission shall keep a record of the atmospheric temperature and pressure, noting :—

(a) The maximum and minimum temperature of each camp.

(b) The atmospheric pressure, by a mercurial barometer and aneroid, at each culminating point, pass, etc.

(c) The temperature of boiling-point at same.

(d) The geological and botanical indications and other observations which may be made.

12. The latitude of each landmark and camp shall be taken by means of meridian altitudes.

13. Longitudes shall be determined, whenever possible, by occultation of stars.

14. An attempt shall be made to form a chain of triangles connecting the various points of the frontier line by means of the preceding methods and of convenient azimuths taken to the snowy and notable summits of the Cordillera.

No. 55.

THE EXPERTS' DECLARATIONS as to the Meaning of the Term "ENCADENAMIENTO PRINCIPAL DE LOS ANDES" in the Instructions.

[Translated from Bertrand's "*Estudio Técnico*," Docs. pp. 139-141.]

(Quoted on page 514 of the Statement.)

DECLARATIONS OF THE EXPERTS REGARDING THE INSTRUCTIONS.

IN the Minute of the Conference held on the 1st of January, 1894, the Chilean Expert made the following declaration :—

"That, although the cordiality and harmony with which the work of the demarcation has been resumed lead him to hope that no difficulties will arise on the ground respecting the meaning which must be given to the instructions agreed to, he deems it his duty to declare that, by the words "*encadenamiento principal de los Andes*," he means the uninterrupted line of summits which divide the waters, and which form the separation of the hydrographic basins or regions tributary to the Atlantic towards the east, and the Pacific towards the west, thus determining the limit between both countries according to the principles of geography, the Treaty of Limits, and the opinions of the most distinguished geographers of either country. The Chilean Expert added that, convinced as he was that, in view of the instructions copied above, they would not give rise to misunderstanding, the departure of

Quoted
p. 514.

the Sub-Commissions of Assistant Engineers should be hastened."

The Argentine Expert replied :—

" That he regretted his colleague's insistence in laying down a definition as to what he understood by '*encadenamiento principal de los Andes*,' as it did not come within the powers of the Experts, who were simple demarcators of the frontier line between the two countries, with the mere amplitude of powers which, in a determined case, part 2nd of the Article of the Treaty of 1881 granted them. That, fortunately, during the numerous conferences which he had had since the 24th of December last, with the object of wording the instructions for the demarcating Sub-Commission, they had not met with any obstacle which they had not overcome for the application in letter and in spirit of the Treaty mentioned and of the explanatory Protocol of May 1st of the present year. That, should the case arise in which the said Sub-Commissions, when working on the ground, should feel the necessity of possessing a precise definition of some term or clause of the international covenants in force, all this would be a matter for the decision of the respective Governments, on whom the Experts depended. That, besides, as the Sub-Commissions were to do the work, and as the existence of the principal chain in the Cordillera de los Andes was a unique fact, and as all the operations of the said Sub-Commissions are subject to the Expert's approval, without any exception, without which they would not have any definite effect, the latter could always repair any error which might be committed,—which in every case would be an error of fact and, consequently, not detrimental to the right of territorial sovereignty of either country, affirmed in a solemn manner in Article II. of the Protocol of May 1, which is the supreme law for the two nations. That, by virtue of these considerations, he was not called upon to deal with the words used by the Chilean Expert for defining the '*encadena-*

Quoted
p. 514.

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miento principal de los Andes, not being able for this reason to consider what was superfluous or lacking in the definition presented, especially when no difficulty had arisen or was likely to arise, as regards the facts, which might induce him to consult his Government, as to which his distinguished colleague was also in accord."

The Argentine Expert ended by saying that he believed, like his colleague, that the application of the instructions they had signed would give rise to no difficulty whatsoever, and that the departure of the Sub-Commissions of Assistant Engineers should be hastened in order to profit by the present season, which had been a desire on his part since his arrival at Santiago, thus obeying the reiterated wishes of his Government and acting in accordance with what had been expressed by both Governments in the latter part of Article VII. of the Protocol of May 1.

With this exchange of opinions the Conference was brought to an end and the Experts signed the present record. DIEGO BARROS ARANA, N. QUIRNO COSTA, *Lindor Perez G.*, Secretary ad interim, *Juan I. Ochagavia*, Secretary.

No. 56.

THE CHILEAN GOVERNMENT'S OFFICIAL DECLARATION AS TO THE TERM "ENCADENAMIENTO PRINCIPAL DE LOS ANDES."

[Translated from a certified copy of the original, at the Chilean Legation.]

(Quoted on page 516 of the Statement.)

*The Chilean Minister for Foreign Affairs to the Chilean Expert,
Señor Barros Arana.*

SANTIAGO, January 27, 1894.

TOGETHER with your note No. 121, dated the 23rd instant, I have received a certified copy of the Records of the Conferences held between you and the Argentine Expert with the object of reaching an agreement regarding the instructions to be issued to the joint Sub-Commissions of Assistant Engineers.

Whilst informing you that I have nothing to observe respecting the instructions agreed to, I wish to state that the opinions emitted by you at one of those meetings, as to the meaning to be ascribed to the words "*encadenamiento principal de los Andes*," are the same as have been invariably maintained by this Department, and the same as the undersigned held in justification of the Protocol of May 1 last, before the Congress.

Quoted
p. 516.

I have, etc.,

V. BLANCO.

No. 57.

ACT OF DAMARCATION AT THE DAMAS PASS.

Signed on March 8, 1894.

[Translated from "*Memoria de Relaciones Exteriores de Chile*," presented in 1895, p. 242.]

(Quoted on page 518 of the Statement.)

THE undersigned, Chiefs and Assistants of the respective Boundary Sub-Commission of the Central Section, on the part of Chile and the Argentine Republic, assembled in the Cordillera de los Andes, on March 8, 1894, bearing in mind the instructions which have been issued to them by both Experts under date of the 4th of January last, as well as the stipulation of the Treaty of 1881 and Protocol of 1893, therein mentioned, have agreed to erect a landmark *on the point of the principal chain of the Andes which divides the waters*, commonly called Paso de las Damas, a point that serves as a means of communication between the Chilean valley of Tinguiririca and the Argentine valley of the River Tordillo. Quoted
p. 518.

In conformity with Art. 7 of our Instructions, we record in this minute that, at the aforesaid Paso de las Damas, *two streams (vertientes)* diverge, the western one flowing into the *cajon* bearing the same name, a tributary of the Chilean river Tinguiririca, and the eastern one into *the stream (arroyo)* named La Línea which, joining with that of Las Choicas, forms, lower down, the Argentine river Tordillo.

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The bearings, photographic views and other data indicated in the Instructions for the purpose of fixing the geographical position of the place, have been collected, the results of which will be inserted in an appendix to this Record which shall be subscribed by the undersigned as soon as the necessary calculations have been made and verified, so as to give to these results the greatest accuracy possible.

Bearing in mind the great difficulties in conveying to this point of the Cordillera the iron pieces forming the permanent landmarks, we have agreed to erect a provisional cairn, which shall remain as a sign of the demarcation until the definite decision of the Experts be obtained.

Drawn up in quadruplicate on the eighth day of the month of March, One thousand eight hundred and ninety-four. ALEJANDRO BERTRAND, LUIS F. DELLEPIANE, *C. Soza Bruna*, *S. Velazco Lugones*.

No. 59.

THE EXPERTS' AGREEMENT AS TO THE INSTRUCTIONS FOR THE REVISION OF THE SAN FRANCISCO LANDMARK.

[Translated from an extract of the Record of the Meeting of the Experts on January 1, 1894, printed in Bertrand's "*Estudio Técnico*," Docs. pp. 127, 128.]

(Quoted on page 521 of the Statement.)

* * * * *

As Article VIII. of the Protocol of 1st of May said that the Argentine Expert, having stated that, in order to sign with full knowledge of the circumstances the Minute of 15th of April, 1892, by which a Chilean-Argentine Sub-Commission marked on the ground the starting point in the demarcation of the frontier in the Cordillera de los Andes, he thought it indispensable to make a fresh survey of the place, and, it having been decided by the same Protocol that a revision of the operation should take place, and that, in case any error be discovered, the boundary mark shall be removed to the spot where it ought to be placed, according to the terms of the Boundary Treaty, the Experts have agreed to give effect to this proviso in the following manner :—

The Argentine Expert shall issue the necessary instructions to the Commission under his orders, the said instructions having to be signed as well by the Chilean Expert, in order that the Sub-Commission of the latter's country may co-operate

as may be considered necessary for the best results of the expedition.

The chief of the Argentine Sub-Commission and the chief of the Chilean Sub-Commission shall present to their respective Experts a Report explaining the works and results of the revision, stating all the points as to which they may be in conformity or nonconformity and their reasons for such. The Experts shall decide whether the landmarks erected must be removed or not. The work of the revision being at an end, the joint Sub-Commission shall proceed to the work of the demarcation, continuing towards the south.

Instructions of the Argentine Expert to his Commission of Investigation :—

Operations of reconnaissance and verification shall be undertaken in the region where the provisional landmark is erected, as well as in the parts of the Cordillera where it shall be deemed convenient, or necessary, in order to determine the starting-point for the demarcation according to the Treaty of Limits and the Protocol of May 1 last. Quoted
p. 521.

The maps and Report shall be laid before the Experts by the joint Commission in order that the former may decide to give fulfilment to the latter part of Article VIII. of the Protocol 1893 mentioned. Once the investigations for a definitive decision as to this point in conformity with the stipulation contained in the said Article of the Protocol are ended, the joint Sub-Commission of Investigation shall become a demarcating Sub-Commission, continuing the demarcation towards the South, and subordinating their procedure to the rules established in the Instructions inserted above and given for the demarcation in the Cordillera.

No. 60.

RECORDS OF THE PROCEEDINGS OF THE COMMISSIONERS For the Revision of the San Francisco Landmark.

[Translated from Bertrand's "*Estudio Técnico*," Docs. pp. 132-134.]

(Quoted on page 521 of the Statement.)

IN the Vega de San Francisco on March 7, 1894, the Engineers constituting the joint Chilean-Argentine Sub-Commission of reconnaissance of the boundary, directed to work in the Cordillera de los Andes, assembled in the Argentine camp, agreed to leave a record in a Minute of the works carried out and of the agreement arrived at up to the present.

1. The Assistants mentioned, having met in the Chilean camp on February 22 of the present year, it was decided to carry out in the vicinity of the San Francisco Pass the following operations of reconnaissance :

A. The Argentine Sub-Commission to carry out a lineal measurement, by means of the compass and chain, from station 1,—the beginning of an already measured base-line at the Vega de San Francisco made by the said Sub-Commission, and the extent of which is 2515 metres,—as far as the provisional landmark erected by Señores Diaz and Bertrand in April, 1892.

B. The two Sub-Commissions to effect the triangulation, with the aid of the already quoted base-line, of all the more notable hills and summits in the neighbourhood of the landmark, in order to determine the position and height of them.

C. To take photographic views of the whole circle from the station-points which may be considered of importance.

D. To take hypsometric observations in the Argentine camp and on the spot where the provisional landmark is erected, in order to ascertain the absolute atmospheric pressure of the respective places and to deduce therefrom the height above the sea of all the points observed.

2. Once the investigations enumerated in the preceding Article had been ended by joint accord, it was found that the landmark erected by the joint Sub-Commission in April, 1892, was really situated at the place called Paso de San Francisco, and on *the spot which must be topographically termed San Francisco Pass, or Gap*, according to the present Commissioners. (Quote:1
p. 522.)

It was also found that the two main basins or valleys which are separated by the San Francisco Gap are those of Laguna Verde on the west, and Vega de San Francisco on the east.

3. That, in spite of the results obtained, the Argentine Sub-Commission, believing that the point where the above-mentioned provisional landmark is erected, is not in conformity with the stipulations of the Treaty of 1881 and the Protocol of May 1, 1893, requires, in order to give a conscientious report, as ordered by the Instructions, to extend the operations more to the west than has already been done, and therefore requests the co-operation of the Chilean Commission in the continuance of those surveys.

4. The Chilean Sub-Commission, on their part, stated that, in view of the results obtained from the investigation and revision made, they believed that the case contemplated in the Instructions, of continuing the demarcation towards the south, had arisen, and that the operations of revision should be regarded as ended. It bases this belief upon the fact that the reason which the Argentine Expert had for not signing the Record of April 15, 1892, and which has given rise to the revision, could not have been other than the doubt whether the landmark

erected by the joint Commission was or was not situated on the Pass of San Francisco which the said [Argentine] Expert had declared to be a point of the frontier between Chile and the Argentine Republic.

This emphatic declaration of both Experts has been corroborated by the surveys and works of the joint Commission of 1892, which claims in its record to have erected the provisional landmark in conformity with the Boundary Treaty of 1881, the spirit of which is not altered in the slightest degree by the Protocol of May, 1893.

For the aforesaid reasons, the Chilean Commission considers the continuance of the work of study to be completely unnecessary; but declares at the same time, that it has no objection to continue co-operating therein, if the Argentine Commission insists upon continuing them.

5. It was agreed to continue towards the west the work of study, at the request of the Argentine Commission, and to sign the present record in duplicate. VICENTE E. MONTES, ANÍBAL CONTRERAS P., *Fernando L. Dousset, Alvaro Donoso G.*

On the 9th of March, 1894, the Assistants, forming the joint Sub-Commission of investigations in the demarcation of the boundary between the Republics of Argentina and Chile having assembled, the chief of the Argentine Sub-Commission expressed inability, owing to the bad state of his health, of continuing in person the work commenced, and for this reason requested the Chilean Sub-Commission to accept, on his behalf, the assistance of the adjutant, Lieutenant Don Fernando L. Dousset, in order to continue the investigations as far as the "cuesta de Santa Rosa." At the same time the chief of the Argentine Sub-Commission said that, if there was no objection on the part of the Chilean Sub-Commission, he would authorize the Assistant, Lieutenant Don Luis Almada, to sign the record in which the work of the present season should be

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declared at an end. The Chilean Sub-Commission assented to everything proposed by the chief of the Argentine Sub-Commission.

The present Record was signed in duplicate by agreement. VICENTE E. MONTES, ANÍBAL CONTRERAS P., *Fernando L. Dousset, Alvaro Donoso G.*

On March 14, 1894, the undersigned members of the Boundary Commission between the Republics of Chile and Argentina having assembled, the Argentine Sub-Commission stated that *they considered the surveys already made to be sufficient* and, on their part, they regarded them as closed, declaring, moreover, the work of the present season to be at an end. The Chilean Sub-Commission stated that, prior to the Argentine Sub-Commission, they had considered the work of investigation at an end for the reason expressed in another Record. Both Sub-Commissions being in accord that the works of the present season were completely closed, it was agreed to leave a record of these facts in two similar Acts. FERNANDO L. DOUSSET, ANÍBAL CONTRERAS P., *Luis E. Almada, Alvaro Donoso G.*

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